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<110> Matsuda, Seiichi P.T.
Hart, Elizabeth A.

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 <213> Glycine max

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<210> 13
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 <212> DNA
 <213> Sinapis alba

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ctattggcgc gacagcttca cgtgtccatc cgagtcggat tacaagctga tgactgtgcg	780
caaaactggc ggcctcttta tgctggccat tcgccttatg cagctgttca gctccaacaa	840
ggaggactat tcgaagttga cggctatatt gggcctgtac tttcagatac gcgacgacta	900
ttgcaatctg agtctgaaag agtacacgga gaacaagagc ttcgccgagg acttgacgga	960
gggcaagttc ggcttcccg taatccatgc ggcttcgcacc caaagcagg ataaacaggt	1020
tctacacata ttacgccagc gcacgcacga cattgaggtc aagaagtact gcatcacctt	1080

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gttgaaaaag ctgggcagct ttcagtatac acgcaagggt ctggagtcgc tcgacgcaga 1140
ggctcggtcg gaggtggctc gtctgggtag caatccgtac atggaccgcc tgctcaacaa 1200
gctgctgtcg tggaagacga gcgatagcgc cagcatcacg cagtcgaacc agatcaatca 1260
caacaacgtc tcacgcagca gcccacaacca gaacacgttc aattgcaatt agcagccaaa 1320
gaggcaaaaag agggagcagt cgtgaattgc gaacggcaga gcctcttttg ccgccaatcc 1380
gggacagcag caggccagca gccagccgac gcctgcgtgc ctgagtcgc ccctgttgcg 1440
tttctgcag aagctgaaga tattctgaga tttatgttac cttttgcaa accgaaaagc 1500
ccacagagaa cccctacctt actgtcaacc gaaaccagag cgatgagaac ggaaatagga 1560
ggaggatagg atttggattt gatagtgaat cggatgaaat gggatggata acaaaaccaa 1620
cagcagcctt acagaaaatt gttaagccaa aagtaaattg atataagcca agcttatcgt 1680
tgagctagca aagagccata ttacagcttt tcaagaaatt tgttttttta cttttacatt 1740
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ctcgagagc attactgaat tatagaatat gcaatttttt agctcttgta tttctaagt 1920
tgtttcgtat tcgtaactca attctgcaag caattttcaa tttctaagt tcattttatc 1980
aatctaact cactcggaac tcaatgtgca cttcctttat cgacgttggt ccattttaat 2040
tggtatacaa atgcgattcg tatacatata tacatatgta ctattaacga caaattgtta 2100
atgttttatg cagacactat aaaatcaaca caaatgaacg caactatata tattgaaata 2160
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aa 2222

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<210> 22
<211> 335
<212> PRT
<213> Saccharomyces cerevisiae

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<400> 22
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Met Glu Ala Lys Ile Asp Glu Leu Ile Asn Asn Asp Pro Val Trp Ser
1           5           10           15

```

```

Ser Gln Asn Glu Ser Leu Ile Ser Lys Pro Tyr Asn His Ile Leu Leu
          20           25           30

```

```

Lys Pro Gly Lys Asn Phe Arg Leu Asn Leu Ile Val Gln Ile Asn Arg
          35           40           45

```

Val Met Asn Leu Pro Lys Asp Gln Leu Ala Ile Val Ser Gln Ile Val
50 55 60
Glu Leu Leu His Asn Ser Ser Leu Leu Ile Asp Asp Ile Glu Asp Asn
65 70 75 80
Ala Pro Leu Arg Arg Gly Gln Thr Thr Ser His Leu Ile Phe Gly Val
85 90 95
Pro Ser Thr Ile Asn Thr Ala Asn Tyr Met Tyr Phe Arg Ala Met Gln
100 105 110
Leu Val Ser Gln Leu Thr Thr Lys Glu Pro Leu Tyr His Asn Leu Ile
115 120 125
Thr Ile Phe Asn Glu Glu Leu Ile Asn Leu His Arg Gly Gln Gly Leu
130 135 140
Asp Ile Tyr Trp Arg Asp Phe Leu Pro Glu Ile Ile Pro Thr Gln Glu
145 150 155 160
Met Tyr Leu Asn Met Val Met Asn Lys Thr Gly Gly Leu Phe Arg Leu
165 170 175
Thr Leu Arg Leu Met Glu Ala Leu Ser Pro Ser Ser His His Gly His
180 185 190
Ser Leu Val Pro Phe Ile Asn Leu Leu Gly Ile Ile Tyr Gln Ile Arg
195 200 205
Asp Asp Tyr Leu Asn Leu Lys Asp Phe Gln Met Ser Ser Glu Lys Gly
210 215 220
Phe Ala Glu Asp Ile Thr Glu Gly Lys Leu Ser Phe Pro Ile Val His
225 230 235 240
Ala Leu Asn Phe Thr Lys Thr Lys Gly Gln Thr Glu Gln His Asn Glu
245 250 255
Ile Leu Arg Ile Leu Leu Leu Arg Thr Ser Asp Lys Asp Ile Lys Leu
260 265 270
Lys Leu Ile Gln Ile Leu Glu Phe Asp Thr Asn Ser Leu Ala Tyr Thr
275 280 285
Lys Asn Phe Ile Asn Gln Leu Val Asn Met Ile Lys Asn Asp Asn Glu

290		295		300
Asn Lys Tyr Leu Pro Asp Leu Ala Ser His Ser Asp Thr Ala Thr Asn				
305		310		315 320
Leu His Asp Glu Leu Leu Tyr Ile Ile Asp His Leu Ser Glu Leu				
	325		330	335
<210> 23				
<211> 335				
<212> PRT				
<213> Drosophila melanogaster				
<400> 23				
Met Glu Glu Leu Asn Ile Ile Leu Gln Lys Thr Lys Asp Lys Ser Thr				
1	5		10	15
Gln Lys Glu Gln Asp Glu Ile Leu Leu Gln Pro Phe Thr Tyr Ile Gln				
	20		25	30
Gln Ile Pro Gly Lys Gln Phe Arg Ser Glu Leu Ala Leu Ala Phe Asn				
	35		40	45
His Trp Leu Leu Ile Pro Gly Glu Lys Leu Ala Gln Ile Gly Asn Ile				
	50		55	60
Val Gln Met Leu His Asn Ser Ser Leu Leu Ile Glu Asp Asn Ser Ile				
65		70		75 80
Leu Arg Arg Gly Val Pro Val Ala His Ser Ile Tyr Gly Val Ala Ser				
	85		90	95
Thr Ile Asn Ala Ala Asn Tyr Ala Leu Phe Leu Ala Leu Glu Lys Val				
	100		105	110
Gln Gln Leu Asp His Pro Glu Val Arg Lys Val Tyr Thr Glu Gln Leu				
	115		120	125
Leu Glu Leu His Arg Gly Gln Gly Met Glu Ile Tyr Trp Arg Asp Ser				
	130		135	140
Phe Thr Cys Pro Ser Glu Ser Asp Tyr Lys Leu Met Thr Val Arg Lys				
145		150		155 160
Thr Gly Gly Leu Phe Met Leu Ala Ile Arg Leu Met Gln Leu Phe Ser				
	165		170	175

Ser Asn Lys Glu Asp Tyr Ser Lys Leu Thr Ala Ile Leu Gly Leu Tyr
180 185 190

Phe Gln Ile Arg Asp Asp Tyr Cys Asn Leu Ser Leu Lys Glu Val Ser
195 200 205

Val Asn Lys Ser Phe Ala Glu Asp Leu Thr Glu Gly Lys Phe Gly Phe
210 215 220

Pro Val Ile His Ala Val Arg Thr Gln Lys Gln Asp Lys Gln Val Leu
225 230 235 240

Arg Lys Ser Ser Gln Arg Thr His Asp Ile Glu Val Lys Lys Tyr Cys
245 250 255

Ile Thr Leu Leu Glu Lys Leu Gly Ser Phe Gln Tyr Thr Arg Lys Val
260 265 270

Leu Glu Ser Leu Asp Ala Glu Ala Arg Ser Glu Val Ser Thr Leu Gly
275 280 285

Ser Asn Pro Tyr Met Asp Arg Leu Leu Asn Lys Leu Leu Ser Trp Lys
290 295 300

Thr Ser Asp Ser Ala Ser Ile Thr Gln Ser Asn Gln Ile Asn His Asn
305 310 315 320

Asn Val Ser Arg Ser Ser Pro Asn Gln Asn Thr Phe Asn Cys Asn
325 330 335

<210> 24
<211> 338
<212> PRT
<213> Drosophila melanogaster

<400> 24

Met Glu Glu Leu Asn Ile Ile Leu Gln Lys Thr Lys Asp Lys Ser Thr
1 5 10 15

Gln Lys Glu Gln Asp Glu Ile Leu Leu Gln Pro Phe Thr Tyr Ile Gln
20 25 30

Gln Ile Pro Gly Lys Gln Phe Arg Ser Glu Leu Ala Leu Ala Phe Asn
35 40 45

His Trp Leu Leu Ile Pro Gly Glu Lys Leu Ala Gln Ile Gly Asp Ile

50		55		60											
Val 65	Gln	Met	Leu	His	Asn 70	Ser	Ser	Leu	Leu	Ile 75	Asp	Asp	Ile	Glu	Asp 80
Asn	Ser	Ile	Leu	Arg 85	Arg	Gly	Val	Pro	Val 90	Ala	His	Ser	Ile	Tyr 95	Gly
Val	Ala	Ser	Thr 100	Ile	Asn	Ala	Ala	Asn 105	Tyr	Ala	Leu	Phe	Leu	Ala 110	Leu
Glu	Lys	Val 115	Gln	Gln	Leu	Asp	His 120	Pro	Glu	Ala	Thr	Lys 125	Val	Tyr	Thr
Glu	Gln	Leu 130	Leu	Glu	Leu	His 135	Arg	Gly	Gln	Gly	Met 140	Glu	Ile	Tyr	Trp
Arg 145	Asp	Ser	Phe	Thr	Cys 150	Pro	Ser	Glu	Ser	Asp 155	Tyr	Lys	Leu	Met	Thr 160
Val	Arg	Lys	Thr 165	Gly	Gly	Leu	Phe	Met	Leu 170	Ala	Ile	Arg	Leu	Met 175	Gln
Leu	Phe	Ser	Ser 180	Asn	Lys	Glu	Asp	Tyr 185	Ser	Lys	Leu	Thr	Ala	Ile	Leu 190
Gly	Leu	Tyr 195	Phe	Gln	Ile	Arg	Asp 200	Asp	Tyr	Cys	Asn 205	Leu	Ser	Leu	Lys
Glu 210	Tyr	Thr	Glu	Asn	Lys	Ser 215	Phe	Ala	Glu	Asp	Leu 220	Thr	Glu	Gly	Lys
Phe 225	Gly	Phe	Pro	Val	Ile 230	His	Ala	Val	Arg	Thr 235	Gln	Lys	Gln	Asp	Lys 240
Gln	Val	Leu	His 245	Ile	Leu	Arg	Gln	Arg	Thr 250	His	Asp	Ile	Glu	Val 255	Lys
Lys	Tyr	Cys	Ile 260	Thr	Leu	Leu	Glu	Lys 265	Leu	Gly	Ser	Phe	Gln 270	Tyr	Thr
Arg	Lys	Val 275	Leu	Glu	Ser	Leu	Asp 280	Ala	Glu	Ala	Arg	Ser 285	Glu	Val	Ala
Arg	Leu 290	Gly	Ser	Asn	Pro	Tyr 295	Met	Asp	Arg	Leu	Leu 300	Asn	Lys	Leu	Leu

Ser Trp Lys Thr Ser Asp Ser Ala Ser Ile Thr Gln Ser Asn Gln Ile
 305 310 315 320

Asn His Asn Asn Val Ser Arg Ser Ser Pro Asn Gln Asn Thr Phe Asn
 325 330 335

Cys Asn

<210> 25
 <211> 300
 <212> PRT
 <213> Cyanophora paradoxa

<400> 25

Met Lys Pro Leu Gln Thr Asn Phe Asn Leu Leu Thr Tyr Leu Tyr Glu
 1 5 10 15

Arg Lys Glu Ile Val Glu Asp Thr Leu Asn Lys Ser Ile Pro Arg Gly
 20 25 30

Asn Pro Thr Phe Ile Tyr Asp Ser Ile Arg Tyr Ser Leu Ser Ala Gly
 35 40 45

Gly Lys Arg Ile Arg Pro Ile Leu Cys Leu Ala Ser Cys Glu Leu Ala
 50 55 60

Gly Gly Thr Met Glu Met Ala Leu Pro Thr Ala Cys Ala Leu Glu Met
 65 70 75 80

Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro Ala Met Asp Asn
 85 90 95

Asp Ser Tyr Arg Arg Gly Lys Pro Thr Asn His Ile Ile Tyr Gly Glu
 100 105 110

Asp Leu Ala Ile Leu Ala Gly Asp Ala Leu Leu Ala Tyr Ala Phe Glu
 115 120 125

Phe Ile Ala Thr Gln Thr Lys Asn Val Pro Ala Asp Leu Ile Val Lys
 130 135 140

Val Ile Ala Gln Val Ala His Ser Val Thr Thr Ser Gly Leu Val Gly
 145 150 155 160

Gly Gln Ile Ile Asp Leu Ser Ser Glu Gly Lys Ser Asp Thr Thr Leu
165 170 175

Glu Thr Leu Asn Phe Ile His Ile His Lys Thr Gly Ala Leu Leu Glu
180 185 190

Ala Ala Val Leu Ser Gly Ala Leu Leu Ala Gly Ala Lys Glu Lys Asp
195 200 205

Met Asn Arg Phe Leu Arg Tyr Ala Gln Asn Ile Gly Leu Ala Phe Gln
210 215 220

Ile Ile Asp Asp Val Leu Asp Ile Ile Ser Thr Glu Glu Lys Leu Gly
225 230 235 240

Lys Ser Ile Gly Lys Asp Leu Lys Thr Gln Lys Ala Thr Tyr Pro Ser
245 250 255

Phe Trp Gly Val Glu Glu Ser Ile Lys Gln Ala Glu Leu Leu Val Glu
260 265 270

Glu Ala Lys Glu Glu Ile Leu Tyr Phe Asp Asn Lys Ala Ile Pro Leu
275 280 285

Ile Ala Ile Ala Asp Phe Ile Val Asn Arg Asn Asn
290 295 300

<210> 26
<211> 376
<212> PRT
<213> Oryza sativa

<400> 26

Met His Val Leu Ala Gln Ser Thr Ala Val Ala Lys Val Ala Ala Ser
1 5 10 15

Gly Cys Leu Arg Arg Ser Pro Asn Pro Ser Val Thr Phe Gln Arg Ser
20 25 30

Pro Ser Leu Leu Leu Ser Pro Ala Ala Cys Arg Arg Arg Cys Arg Arg
35 40 45

Gly Cys Ser Val Ser Val Asp Val Arg Cys Ser Leu Gly Ala Met Val
50 55 60

Thr Pro Glu Leu Asn Gly Gly Asp Val Gly Val Gly Val Gly Gly Gly
65 70 75 80

Ser Phe Asp Phe Gln Arg Tyr Leu Ser Ala Arg Ala Asp Ala Val His
85 90 95

Asp Ala Leu Asp Arg Ala Met Pro Arg Gly Phe Pro Glu Arg Leu Cys
100 105 110

Glu Ser Met Arg Tyr Ser Val Leu Ala Gly Gly Lys Arg Val Arg Pro
115 120 125

Val Leu Ala Leu Ala Ala Cys Glu Leu Val Gly Gly Asp Ala Ala Ala
130 135 140

Ala Thr Pro Val Ala Cys Ala Val Glu Met Ile His Thr Met Ser Leu
145 150 155 160

Ile His Asp Asp Met Pro Cys Met Asp Asp Asp Ala Leu Arg Arg Gly
165 170 175

Arg Pro Ser Asn His Val Ala Phe Gly Glu Phe Thr Ala Leu Leu Ala
180 185 190

Gly Asp Ala Leu His Ala Leu Ala Phe Glu His Val Ala Arg Gly Cys
195 200 205

Gly Asp His Gly Val Pro Ala Asp Arg Thr Leu Arg Ala Val Ala Glu
210 215 220

Leu Gly Ser Ala Ser Gly Thr Gly Gly Val Ala Ala Gly Gln Val Ala
225 230 235 240

Asp Lys Glu Ser Glu Gly Leu Pro Val Ser Leu Ala Met Leu Glu Tyr
245 250 255

Ile His Val His Lys Thr Ala Arg Leu Leu Glu Ala Ala Ala Val Ser
260 265 270

Gly Ala Ile Val Gly Gly Gly Ala Asp Ala Glu Val Glu Arg Val Arg
275 280 285

Arg Tyr Ala Arg Cys Val Gly Leu Leu Phe Gln Val Val Asp Asp Val
290 295 300

Leu Asp Met Thr Ser Thr Ser Glu Gln Leu Gly Lys Thr Ala Gly Lys
305 310 315 320

Asp Val Glu Ala Asp Lys Ala Thr Tyr Pro Lys Leu Leu Gly Val Asp
325 330 335

Lys Ala Arg Glu Tyr Ala Ala Asp Leu Leu Ala Met Ala Glu Ala Glu
340 345 350

Leu Asp Gly Phe Asp Ala Glu Arg Ala Ala Pro Leu Arg His Leu Ala
355 360 365

Arg Phe Ile Ala Tyr Arg Gln His
370 375

<210> 27
<211> 291
<212> PRT
<213> Chlamydia trachomatis

<400> 27

Met Asp Tyr Phe Ser Val Tyr Arg Ser Lys Val Glu Lys Lys Leu Arg
1 5 10 15

Asp Ser Leu Gly Asp Phe Gly Asn Thr Gln Gly Gly Leu Arg Asp Pro
20 25 30

Ile Glu Tyr Ala Leu Leu Gly Gly Gly Lys Arg Val Arg Pro Leu Leu
35 40 45

Val Gly Leu Phe Ala Glu Gly Val His Lys Glu Arg Asp Val Leu Asp
50 55 60

Thr Ala Ile Ala Ile Glu Tyr Ile His Thr Ser Thr Leu Ile Ala Asp
65 70 75 80

Asp Leu Pro Cys Met Asp Asp Asp Asp Met Arg Arg Gly Lys Pro Ser
85 90 95

Val His Lys Ala Phe Asp Glu Ala Ser Ala Leu Leu Ala Ser Tyr Ala
100 105 110

Leu Ile Pro Ala Ala Tyr Ala Arg Ile Arg Lys Asn Ala Lys Ala Leu
115 120 125

Lys Ala Val Val Ser Cys Glu Gln Asp Val Glu Glu Ala Tyr Glu Asp
130 135 140

Ile Leu Glu Leu Ile Glu Leu Arg Phe Gly Val Gly Gly Ile Leu Gly

145		150		155		160									
Gly	Gln	Tyr	Glu	Asp	Ile	Phe	Phe	His	Asp	Phe	Ser	Lys	Glu	Asn	Val
				165					170					175	
Leu	Gly	Ile	Ile	Lys	Lys	Lys	Thr	Gly	Ala	Leu	Phe	Glu	Ile	Ala	Cys
			180					185					190		
Val	Ser	Gly	Trp	Leu	Phe	Gly	Gly	Gly	Glu	Arg	Glu	Ser	Ser	Thr	Leu
		195					200					205			
Val	Ala	Glu	Phe	Ala	Glu	His	Phe	Gly	Leu	Leu	Phe	Gln	Ile	Arg	Asp
	210					215					220				
Asp	Leu	Ala	Asp	Leu	Ser	Gln	Asp	Asp	Gln	Glu	Glu	Lys	His	Met	Asn
225					230					235					240
Tyr	Ala	Leu	Leu	Phe	Gly	Glu	Val	Ala	Ala	Lys	Glu	Leu	Leu	Asp	His
				245					250					255	
Ser	Phe	Glu	Ser	Cys	Ile	Lys	Asn	Leu	His	Leu	Leu	Gln	Glu	Arg	Gly
			260					265					270		
Leu	Glu	Cys	Leu	Glu	Pro	Leu	Glu	Met	Leu	Cys	Lys	Asn	Val	Phe	Cys
		275					280					285			
Gly	Trp	Lys													
	290														
<210>	28														
<211>	354														
<212>	PRT														
<213>	Thermoplasma acidophilum														
<400>	28														
Met	Gln	Ile	Glu	Thr	Glu	Asp	Pro	His	Glu	Thr	Ile	Asn	Asn	Tyr	Lys
1				5					10					15	
Leu	Arg	Ile	Asp	Glu	Arg	Ile	Ser	Arg	Phe	Phe	Asp	Arg	Lys	Glu	Ala
			20					25					30		
Glu	Thr	Lys	Asp	Asp	Leu	Ser	Arg	Arg	Val	Ile	Arg	Met	Ile	Arg	Glu
		35					40					45			
Tyr	Thr	Glu	Gly	Gly	Gly	Lys	Arg	Leu	Arg	Pro	Ile	Phe	Leu	Val	Leu
	50					55					60				

Gly Tyr Arg Leu Phe Ala Asp Glu Asn Asn Ala Ile Phe Asp Ala Ser
65 70 75 80

Ile Ser Ile Glu Leu Ala Gln Ser Tyr Leu Leu Ile His Asp Asp Val
85 90 95

Ile Asp Asp Ser Asp Leu Arg Arg Gly Lys Pro Ser Met His Ile Arg
100 105 110

Leu Trp Arg Ser Phe Phe Pro Glu Ser Glu Lys Gly Lys Lys Met Gly
115 120 125

Glu Gly Leu Ala Ile Val Ala Gly Asp Leu Ala Glu Thr Tyr Ala His
130 135 140

Glu Ser Leu Ile Asn Ser Asp Phe Asp Pro Ser Leu Leu Leu Leu Ala
145 150 155 160

Asp Met Glu Leu Thr Lys Thr Ile Glu Met Thr Gly Tyr Gly Gln Phe
165 170 175

Leu Asp Val Val Ser Gly Thr Leu Asn Asp Phe Arg Glu Asn Asp Leu
180 185 190

Ile Arg Leu His Leu Trp Lys Thr Ala Arg Tyr Thr Leu Glu Gly Pro
195 200 205

Leu Ala Met Gly Ala Leu Leu Ser Gly Arg His Asp Gln Ile Met Asp
210 215 220

Leu Arg Leu Phe Gly Arg Thr Leu Gly Ile Ala Phe Gln Leu Lys Asp
225 230 235 240

Asp Ile Leu Gly Leu Phe Gly Asp Glu Ala Thr Thr Gly Lys Ser Ile
245 250 255

Tyr Ser Asp Val Asn Glu Gly Lys Arg Thr Leu Leu Met Ile Lys Ala
260 265 270

Met Glu Phe Ser Asp Arg Gln Asp Ala Glu Phe Ile Asp Arg Ile Leu
275 280 285

Arg Arg Gly Asn Val Thr Gln Glu Glu Phe Glu Arg Ile Arg Asn Ile
290 295 300

Val Met Lys Ser Gly Ser Tyr Asp Tyr Ser Val Lys Leu Met Asp Ser
 305 310 315 320

Leu Val Ala Lys Ser Lys Glu Tyr Leu Asn Arg Ile Arg Gly Asn Ser
 325 330 335

Cys Ala Lys Thr Tyr Leu Ser Trp Leu Ser Asp Tyr Leu Val Ala Arg
 340 345 350

Asp His

<210> 29
 <211> 360
 <212> PRT
 <213> Arabidopsis thaliana

<400> 29

Met Ala Thr Thr Val His Leu Ser Ser Ser Ser Leu Phe Ser Gln Ser
 1 5 10 15

Arg Gly Arg Arg Asp Asn Ser Ile Ser Ser Val Lys Ser Leu Arg Lys
 20 25 30

Arg Thr Val Leu Ser Leu Ser Ser Ala Leu Thr Ser Gln Asp Ala Gly
 35 40 45

His Met Ile Gln Pro Glu Gly Lys Ser Asn Asp Asn Asn Ser Ala Phe
 50 55 60

Asp Phe Lys Leu Tyr Met Ile Arg Lys Ala Glu Ser Val Asn Ala Ala
 65 70 75 80

Leu Asp Val Ser Val Pro Leu Leu Lys Pro Leu Thr Ile Gln Glu Ala
 85 90 95

Val Arg Tyr Ser Leu Leu Ala Gly Gly Lys Arg Val Arg Pro Leu Leu
 100 105 110

Cys Ile Ala Ala Cys Glu Leu Val Gly Gly Asp Glu Ala Thr Ala Met
 115 120 125

Ser Ala Ala Cys Ala Val Glu Met Ile His Thr Ser Ser Leu Ile His
 130 135 140

Asp Asp Leu Pro Cys Met Asp Asn Ala Asp Leu Arg Arg Gly Lys Pro
 145 150 155 160

Thr Asn His Lys Val Tyr Gly Glu Asp Met Ala Val Leu Ala Gly Asp
165 170 175

Ala Leu Leu Ala Leu Ala Phe Glu His Met Thr Val Val Ser Ser Gly
180 185 190

Leu Val Ala Pro Glu Lys Met Ile Arg Ala Val Val Glu Leu Ala Arg
195 200 205

Ala Ile Gly Thr Thr Gly Leu Val Ala Gly Gln Met Ile Asp Leu Ala
210 215 220

Ser Glu Arg Leu Asn Pro Asp Lys Val Gly Leu Glu His Leu Glu Phe
225 230 235 240

Ile His Leu His Lys Thr Ala Ala Leu Leu Glu Ala Ala Ala Val Leu
245 250 255

Gly Val Ile Met Gly Gly Gly Thr Glu Gln Glu Ile Glu Lys Leu Arg
260 265 270

Lys Tyr Ala Arg Cys Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile
275 280 285

Leu Asp Val Thr Lys Ser Thr Glu Glu Leu Gly Lys Thr Ala Gly Lys
290 295 300

Asp Val Met Ala Gly Lys Leu Thr Tyr Pro Arg Leu Ile Gly Leu Glu
305 310 315 320

Gly Ser Arg Glu Val Ala Glu Lys Leu Arg Arg Glu Ala Glu Glu Gln
325 330 335

Leu Leu Gly Phe Asp Pro Ser Lys Ala Ala Pro Leu Val Ala Leu Ala
340 345 350

Ser Tyr Ile Ala Cys Arg His Asn
355 360

<210> 30
<211> 371
<212> PRT
<213> Mycobacterium aurum

<400> 30

Met Ala Ser Arg Ser Gln Val Ala Thr Asp Pro Pro Val Gly Ala Gly
 1 5 10 15
 Pro Thr Ala Thr Arg Trp Leu Ala Pro Leu Arg Arg Ala Val Leu Gly
 20 25 30
 Ala Val Thr Glu Phe Leu Asp Thr His Cys Arg Glu Ala Leu Tyr Gly
 35 40 45
 Ala His Val Asp Ile Thr Glu Leu Val Leu Arg Gly Met Leu Ala Glu
 50 55 60
 Gly Lys Cys Val Arg Ser Thr Tyr Leu Tyr Leu Gly Trp Gln Cys Gly
 65 70 75 80
 Ala Pro Ala Asp Glu Ala Ala Leu Arg Ala Ala Ala Ser Leu Glu Leu
 85 90 95
 Leu His Ala Phe Ala Leu Leu Gln Asp Asp Val Met Asp Glu Ser Pro
 100 105 110
 Met Arg Arg Gly Arg Pro Ser Ala His Arg Ala Phe Glu Arg Trp His
 115 120 125
 Arg Glu Arg Gly Leu Pro Gly Ser Ser Ala Arg Phe Gly Glu Ser Ala
 130 135 140
 Ala Val Leu Leu Gly Asp Leu Cys Leu Val Trp Ala Glu Gln Met Leu
 145 150 155 160
 Arg Glu Ser Gly Val Asp Glu Ala Ala Leu Thr Arg Ala Trp Pro Arg
 165 170 175
 Tyr Asp Ala Met Arg Thr Glu Leu Ala Val Gly Gln Phe Ala Asp Leu
 180 185 190
 Val Asn Asp Thr Ala Gly Phe Pro Gln Leu Asp Glu Val Leu Asp Val
 195 200 205
 Ala Arg Arg Lys Ser Gly Asn Tyr Thr Val Arg Arg Pro Leu Glu Ile
 210 215 220
 Gly Ala Ala Leu Ala Gly Cys Asp Ala Glu Val Ile Thr Val Leu Gly
 225 230 235 240
 Arg Tyr Gly Glu Ala Ile Gly Glu Ala Phe Gln Leu Arg Asp Asp Leu

	245		250		255
Leu Gly Val Phe Gly Ala Pro Gln Thr Thr Gly Lys Pro Thr Gly Thr	260		265		270
Asp Leu Val Ala Arg Lys Ala Thr Thr Val Val Val Ala Gly Tyr Glu	275		280		285
Leu Ala Thr Gly Ala Gln Gln Arg Gln Phe Lys Glu Phe Met Thr Ala	290		295		300
Pro Glu Leu Ser Ser Gly Asp Val Thr Arg Trp Gln Ala Leu Ile Ser	305		310		315
Glu Val Gly Thr Val Gln Arg Ile Glu Asp Met Ile His Arg Arg Phe	325		330		335
Ala Val Ala Val Gln Ala Leu Asp Ser Leu Asp Ala Thr Arg Leu Asp	340		345		350
Ala Asp Ala Arg Ser Ala Leu Val Ala Met Ala Ser Ala Cys Thr Glu	355		360		365
Arg Ile Ala	370				

<210> 31
 <211> 229
 <212> PRT
 <213> Chlamydophila pneumoniae
 <400> 31

His Asp Val Met Asp Ser Ala Leu Ala Val Glu Phe Val His Thr Ser	1	5	10	15
Thr Leu Ile Ala Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Glu Arg	20	25	30	
Arg Gly Arg Pro Thr Val His Lys Ala Phe Asp Glu Ala Thr Ala Leu	35	40	45	
Leu Ala Ser Tyr Ala Leu Ile Pro Ala Ala Tyr Ser His Leu Arg Leu	50	55	60	
Asn Ala Lys Lys Leu Lys Glu Gln Gly Cys Asp Pro Arg Glu Ile Asp	65	70	75	80

Ile Ala Tyr Asn Ile Ile Gly Asp Ile Thr Asp Lys Asn Ile Gly Cys
85 90 95

Ser Gly Val Leu Gly Gly Gln Tyr Asp Asp Met Phe Phe Ser Asn Arg
100 105 110

Gly Gln Glu His Val Gln Ser Ile Met Ile Lys Lys Thr Gly Ser Leu
115 120 125

Phe Glu Ile Ala Cys Ile Ser Gly Trp Leu Phe Gly Gly Gly Asp Pro
130 135 140

Gln Phe Ala Pro Ile Ile Thr Ser Phe Ser Asn Asn Phe Gly Leu Leu
145 150 155 160

Phe Gln Ile Lys Asp Asp Phe Ser Asp Leu Gln Lys Asp Ser Gln Gln
165 170 175

Ile Gly Leu Asn Tyr Ala Leu Leu Phe Gly Glu Lys Ala Ala Leu Glu
180 185 190

Leu Leu Ala Arg Ser Gln Asn Asn Cys Leu Glu Leu Leu Asp Arg Leu
195 200 205

Ser Ala Gly Gly Leu Lys Asn Ser Ser Glu Phe Glu Thr Ile Ile Ser
210 215 220

Ser Leu Gly Ser Phe
225

<210> 32
<211> 343
<212> PRT
<213> Arabidopsis thaliana

<400> 32

Met Leu Cys Lys Ile Ile Ile Met Arg Pro Cys Tyr Ser Leu Val Leu
1 5 10 15

Ser Ala Met Arg Leu Ile Arg Pro Ser Asn Arg Arg Leu Ser Ser Ile
20 25 30

Ala Ser Ser Asp Ser Glu Phe Ile Ser Tyr Met Asn Asn Lys Ala Lys
35 40 45

Ser Ile Asn Lys Ala Leu Asp Asn Ser Ile Pro Leu Cys Asn Asn Ser

50					55					60					
Val	Pro	Leu	Trp	Glu	Pro	Val	Leu	Glu	Val	His	Lys	Ala	Met	Arg	Tyr
65					70					75					80
Thr	Leu	Leu	Ser	Gly	Gly	Lys	Arg	Val	Arg	Pro	Met	Leu	Cys	Leu	Val
				85					90					95	
Ala	Cys	Glu	Leu	Val	Gly	Gly	Gln	Glu	Ser	Thr	Ala	Met	Pro	Ala	Ala
			100					105					110		
Cys	Ala	Val	Glu	Met	Ile	His	Ala	Ala	Ser	Leu	Ile	Leu	Asp	Asp	Leu
		115					120					125			
Pro	Cys	Met	Asp	Asp	Asp	Ser	Leu	Arg	Arg	Gly	Ile	Pro	Thr	Asn	His
	130					135					140				
Lys	Val	Phe	Gly	Glu	Lys	Thr	Ser	Ile	Leu	Ala	Ser	Asn	Ala	Leu	Met
145					150					155					160
Ser	Leu	Ala	Val	Lys	Gln	Thr	Leu	Ala	Ser	Thr	Ser	Leu	Gly	Val	Thr
				165					170					175	
Ser	Glu	Arg	Val	Leu	Arg	Ala	Val	Gln	Glu	Met	Ala	Arg	Ala	Val	Gly
			180					185					190		
Thr	Glu	Gly	Leu	Val	Ala	Gly	Gln	Ala	Ala	Asp	Leu	Ala	Gly	Glu	Arg
		195					200					205			
Met	Ser	Phe	Lys	Asn	Glu	Asp	Asp	Glu	Leu	Arg	Tyr	Leu	Glu	Leu	Met
	210					215					220				
His	Val	His	Lys	Thr	Ala	Val	Leu	Val	Glu	Ala	Ala	Ala	Val	Val	Gly
225					230					235					240
Ala	Ile	Met	Gly	Gly	Gly	Ser	Asp	Glu	Glu	Ile	Glu	Arg	Leu	Lys	Ser
			245						250					255	
Tyr	Ala	Arg	Cys	Val	Gly	Leu	Met	Phe	Gln	Val	Met	Asp	Asp	Val	Leu
			260					265					270		
Asp	Glu	Thr	Lys	Ser	Ser	Glu	Glu	Leu	Gly	Lys	Thr	Ala	Gly	Lys	Asp
		275					280					285			
Leu	Ile	Thr	Gly	Lys	Leu	Thr	Tyr	Pro	Lys	Val	Met	Gly	Val	Asp	Asn
	290					295					300				

Ala Arg Glu Tyr Ala Lys Arg Leu Asn Arg Glu Ala Gln Glu His Leu
 305 310 315 320

Gln Gly Phe Asp Ser Asp Lys Val Val Pro Leu Leu Ser Leu Ala Asp
 325 330 335

Tyr Ile Val Lys Arg Gln Asn
 340

<210> 33
 <211> 373
 <212> PRT
 <213> Arabidopsis thaliana

<400> 33

Gln Ile Leu Phe Leu Tyr Leu Ser Leu Phe Ile Leu Ser Leu Asn Phe
 1 5 10 15

Phe Phe Thr Asn Leu Lys Pro Arg Leu Val Arg Leu Phe Gln Pro Ser
 20 25 30

Leu Glu Ser Arg Val Lys Thr Ala Leu Leu Ser Arg Lys Glu Val Ala
 35 40 45

Ala Phe Leu Asp Ser Pro Ile Val Glu Asp Glu Glu Gly Glu Glu Arg
 50 55 60

Glu Glu Glu Glu Glu Gly Gly Ile Val Ser Asn Ala Asn Phe Thr Phe
 65 70 75 80

Glu Phe Asp Pro Tyr Met Met Ser Lys Ala Glu Ser Val Asn Lys Ala
 85 90 95

Leu Glu Glu Ala Ile Pro Val Gly Glu Pro Leu Lys Ile His Glu Ala
 100 105 110

Met Arg Tyr Ala Ile Leu Ala Ala Gly Lys Arg Val Arg Pro Ile Leu
 115 120 125

Cys Leu Ala Ser Cys Glu Leu Val Gly Gly Gln Glu Asn Ala Ala Met
 130 135 140

Pro Ala Ala Cys Ala Val Glu Met Ile His Thr Met Ser Leu Ile Lys
 145 150 155 160

Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro
165 170 175

Thr Thr His Lys Val Tyr Gly Glu Gly Val Ala Ile Leu Ser Gly Gly
180 185 190

Ala Leu Leu Ser Leu Ala Phe Glu His Met Thr Thr Ala Glu Ile Ser
195 200 205

Ser Glu Arg Met Val Trp Ala Val Arg Glu Leu Ala Arg Ser Ile Gly
210 215 220

Thr Arg Gly Leu Val Ala Gly Gln Ala Met Asp Ile Ser Ser Glu Gly
225 230 235 240

Leu Asp Leu Asn Glu Val Gly Leu Glu His Leu Glu Phe Ile His Val
245 250 255

His Lys Thr Ala Val Leu Leu Glu Thr Ala Ala Val Leu Gly Ala Ile
260 265 270

Ile Gly Gly Gly Ser Asp Glu Glu Ile Glu Ser Val Arg Lys Phe Ala
275 280 285

Arg Cys Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Glu
290 295 300

Thr Lys Ser Ser Glu Glu Leu Gly Lys Thr Ala Gly Lys Asp Gln Leu
305 310 315 320

Ala Gly Lys Leu Thr Tyr Pro Lys Leu Ile Gly Leu Glu Lys Ser Lys
325 330 335

Glu Phe Val Lys Arg Leu Thr Lys Asp Ala Arg Gln His Leu Gln Gly
340 345 350

Phe Ser Ser Glu Lys Val Ala Pro Leu Val Ala Leu Thr Thr Phe Ile
355 360 365

Ala Asn Arg Asn Lys
370

<210> 34

<211> 303

<212> PRT

<213> Mucor circinelloides f. lusitanicus

<400> 34

Met Leu Asn Ser His Asn Arg Thr Glu Glu Arg Ser Thr Glu Asp Ile
1 5 10 15

Ile Leu Glu Pro Tyr Thr Tyr Leu Ile Ser Gln Pro Gly Lys Asp Ile
20 25 30

Arg Ala Lys Leu Ile Ser Ala Phe Asp Leu Trp Leu His Val Pro Lys
35 40 45

Asp Val Leu Cys Val Ile Asn Lys Ile Ile Gly Met Leu His Asn Ala
50 55 60

Ser Leu Met Ile Asp Asp Val Gln Asp Asp Ser Asp Leu Arg Arg Gly
65 70 75 80

Val Pro Val Ala His His Ile Tyr Gly Val Pro Gln Thr Ile Asn Thr
85 90 95

Ala Asn Tyr Val Ile Phe Leu Ala Leu Gln Glu Val Met Lys Leu Asn
100 105 110

Ile Pro Ser Met Met Gln Val Cys Thr Glu Glu Leu Ile Asn Leu His
115 120 125

Arg Gly Gln Gly Ile Glu Leu Tyr Trp Arg Asp Ser Leu Thr Cys Pro
130 135 140

Thr Glu Glu Glu Tyr Ile Asp Met Val Asn Asn Lys Thr Ser Gly Leu
145 150 155 160

Leu Arg Leu Ala Val Arg Leu Met Gln Ala Ala Ser Glu Ser Asp Ile
165 170 175

Asp Tyr Thr Pro Leu Val Asn Ile Ile Gly Ile His Phe Gln Val Arg
180 185 190

Asp Asp Tyr Met Asn Leu Gln Ser Thr Ser Tyr Thr Asn Asn Lys Gly
195 200 205

Phe Cys Glu Asp Leu Thr Glu Gly Lys Phe Ser Phe Pro Ile Ile His
210 215 220

Ala Ile Arg Lys Asp Pro Ser Asn Arg Gln Leu Leu Asn Ile Ile Ser
225 230 235 240

Gln Lys Pro Thr Ser Ile Glu Val Lys Lys Tyr Ala Leu Glu Val Ile
245 250 255

Arg Lys Ala Gly Ser Phe Glu Tyr Val Arg Glu Phe Leu Arg Gln Lys
260 265 270

Glu Ala Glu Ser Leu Lys Glu Ile Lys Arg Leu Gly Gly Asn Pro Leu
275 280 285

Leu Glu Lys Tyr Ile Glu Thr Ile Arg Val Glu Ala Thr Asn Asp
290 295 300

<210> 35
<211> 347
<212> PRT
<213> Arabidopsis thaliana

<400> 35

Met Thr Thr Leu Asn Leu Ser Ile Phe Pro Ser Val Lys Ile Ser Ser
1 5 10 15

Ser Ala Ser Ile Pro Gly Phe Ile Lys Ile Gln Pro Phe Leu Leu Arg
20 25 30

Arg Lys Leu Ser Thr Val Leu Ser Val Thr Ala Arg Asp Glu Gly Ile
35 40 45

Ile His Asn His Phe Asp Phe Thr Ser Tyr Met Ile Gly Lys Ala Asn
50 55 60

Ala Val Asn Glu Ala Leu Asp Ser Ala Val Ser Leu Arg Glu Pro Ile
65 70 75 80

Lys Ile His Glu Ala Ile Arg Tyr Ser Leu Leu Ala Arg Gly Lys Arg
85 90 95

Val Arg Pro Val Leu Cys Ile Ala Ala Cys Glu Leu Val Gly Gly Glu
100 105 110

Glu Ser Val Ala Leu Pro Ala Ala Cys Ala Val Glu Met Ile His Thr
115 120 125

Met Ser Leu Ile His Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Leu
130 135 140

Arg Arg Gly Lys Pro Thr Asn His Lys Val Phe Gly Glu Asp Val Ala

145		150		155		160									
Val	Leu	Ala	Gly	Asp	Ala	Leu	Ile	Ser	Phe	Ala	Phe	Glu	His	Leu	Ala
			165					170						175	
Thr	Ser	Thr	Ala	Val	Ser	Pro	Ala	Arg	Val	Val	Arg	Ala	Ile	Gly	Glu
			180					185						190	
Leu	Ala	Lys	Ala	Ile	Gly	Ser	Lys	Gly	Leu	Val	Ala	Gly	Gln	Val	Val
		195					200					205			
Asp	Leu	Thr	Ser	Gly	Gly	Met	Asp	Gln	Asn	Asp	Val	Gly	Leu	Glu	Val
	210					215					220				
Leu	Glu	Phe	Ile	His	Val	His	Lys	Thr	Ala	Val	Leu	Leu	Glu	Ala	Ala
225					230					235					240
Thr	Val	Leu	Gly	Ala	Ile	Val	Gly	Gly	Gly	Ser	Asp	Glu	Glu	Val	Glu
				245					250						255
Lys	Leu	Arg	Arg	Phe	Ala	Arg	Cys	Ile	Gly	Leu	Leu	Phe	Gln	Val	Val
			260					265					270		
Asp	Asp	Ile	Leu	Asp	Val	Thr	Lys	Ser	Ser	Glu	Glu	Leu	Gly	Lys	Thr
		275					280					285			
Ala	Gly	Lys	Asp	Leu	Ile	Ala	Asp	Lys	Leu	Thr	Tyr	Pro	Lys	Leu	Met
	290					295					300				
Gly	Leu	Glu	Lys	Ser	Lys	Asp	Phe	Ala	Asp	Lys	Leu	Leu	Ser	Asp	Ala
305					310					315					320
His	Glu	Gln	Leu	His	Gly	Phe	Asp	Ser	Ser	Arg	Val	Lys	Pro	Leu	Leu
				325					330					335	
Ala	Leu	Ala	Asn	Tyr	Ile	Ala	Lys	Arg	Gln	Asn					
			340					345							
<210> 36															
<211> 372															
<212> PRT															
<213> Arabidopsis thaliana															
<400> 36															
Met	Glu	Ala	Gln	Asn	Ile	Phe	Leu	Tyr	Leu	Leu	Ile	Val	Phe	Leu	Ser
1				5					10					15	

Leu His Phe Val Phe Thr Thr Leu Lys Gly Arg Leu Ser Pro Ala Asn
 20 25 30

Thr Arg Arg Leu Ile Arg Leu Leu His Ile Pro Ile Lys Ser Pro Val
 35 40 45

Ala Ala Ala Ile Phe Ala Arg Lys Asp Thr Arg Glu Phe Leu Asp Ser
 50 55 60

Ser Ile Lys Leu Val Asn Glu Glu Asp Asp Phe Gly Phe Ser Phe Asp
 65 70 75 80

Phe Lys Pro Tyr Met Ile Ser Lys Ala Glu Thr Ile Asn Arg Ala Leu
 85 90 95

Asp Glu Ala Ile Pro Leu Ile Glu Pro Leu Asn Ile His Lys Ala Met
 100 105 110

Arg Tyr Ala Ile Leu Ala Gly Gly Lys Arg Val Arg Pro Ile Leu Cys
 115 120 125

Leu Ala Ala Cys Glu Leu Val Gly Gly Glu Glu Arg Leu Ala Ile Gln
 130 135 140

Ala Ala Cys Ala Val Glu Met Ile His Thr Met Ser Leu Ile Lys Asp
 145 150 155 160

Asp Leu Pro Cys Met Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro Thr
 165 170 175

Thr His Lys Val Phe Gly Glu Ser Val Ala Ile Leu Ser Gly Gly Ala
 180 185 190

Leu Leu Ala Leu Ala Phe Glu His Leu Thr Glu Ala Asp Val Ser Ser
 195 200 205

Lys Lys Met Val Arg Ala Val Lys Glu Leu Ala Lys Ser Ile Gly Thr
 210 215 220

Lys Gly Leu Val Ala Gly Gln Ala Lys Asp Leu Ser Ser Glu Gly Leu
 225 230 235 240

Glu Gln Asn Asp Val Gly Leu Glu Asp Leu Glu Tyr Ile His Val His
 245 250 255

Lys Thr Gly Ser Leu Leu Glu Ala Ser Ala Val Ile Gly Ala Val Ile
260 265 270

Gly Gly Gly Thr Glu Lys Glu Ile Glu Lys Val Arg Asn Phe Ala Arg
275 280 285

Cys Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Glu Thr
290 295 300

Lys Ser Ser Glu Glu Leu Gly Lys Thr Ala Gly Lys Asp Lys Val Ala
305 310 315 320

Gly Lys Leu Thr Tyr Pro Lys Val Ile Gly Val Glu Lys Ser Lys Glu
325 330 335

Phe Val Glu Lys Leu Lys Arg Asp Ala Arg Glu His Leu Gln Gly Phe
340 345 350

Asp Ser Asp Lys Val Lys Pro Leu Ile Ala Leu Thr Asn Phe Ile Ala
355 360 365

Asn Arg Asn His
370

<210> 37
<211> 326
<212> PRT
<213> Arabidopsis thaliana

<400> 37

Met Leu Phe Ser Gly Ser Ala Ile Pro Leu Ser Ser Phe Cys Ser Leu
1 5 10 15

Pro Glu Lys Pro His Thr Leu Pro Met Lys Leu Ser Pro Ala Ala Ile
20 25 30

Arg Ser Ser Ser Ser Ser Ala Pro Gly Ser Leu Asn Phe Asp Leu Arg
35 40 45

Thr Tyr Trp Thr Thr Leu Ile Thr Glu Ile Asn Gln Lys Leu Asp Glu
50 55 60

Ala Ile Pro Val Lys His Pro Ala Gly Ile Tyr Glu Ala Met Arg Tyr
65 70 75 80

Ser Val Leu Ala Gln Gly Ala Lys Arg Ala Pro Pro Val Met Cys Val
85 90 95

Ala Ala Cys Glu Leu Phe Gly Gly Asp Arg Leu Ala Ala Phe Pro Thr
100 105 110

Ala Cys Ala Leu Glu Met Val His Ala Ala Ser Leu Ile His Asp Asp
115 120 125

Leu Pro Cys Met Asp Asp Asp Pro Val Arg Arg Gly Lys Pro Ser Asn
130 135 140

His Thr Val Tyr Gly Ser Gly Met Ala Ile Leu Ala Gly Asp Ala Leu
145 150 155 160

Phe Pro Leu Ala Phe Gln His Ile Val Ser His Thr Pro Pro Asp Leu
165 170 175

Val Pro Arg Ala Thr Ile Leu Arg Leu Ile Thr Glu Ile Ala Arg Thr
180 185 190

Val Gly Ser Thr Gly Met Ala Ala Gly Gln Tyr Val Asp Leu Glu Gly
195 200 205

Gly Pro Phe Pro Leu Ser Phe Val Gln Glu Lys Lys Phe Gly Ala Met
210 215 220

Gly Glu Cys Ser Ala Val Cys Gly Gly Leu Leu Gly Gly Ala Thr Glu
225 230 235 240

Asp Glu Leu Gln Ser Leu Arg Arg Tyr Gly Arg Ala Val Gly Met Leu
245 250 255

Tyr Gln Val Val Asp Asp Ile Thr Glu Asp Lys Lys Lys Ser Tyr Asp
260 265 270

Gly Gly Ala Glu Lys Gly Met Met Glu Met Ala Glu Glu Leu Lys Glu
275 280 285

Lys Ala Lys Lys Glu Leu Gln Val Phe Asp Asn Lys Tyr Gly Gly Gly
290 295 300

Asp Thr Leu Val Pro Leu Tyr Thr Phe Val Asp Tyr Ala Ala His Arg
305 310 315 320

His Phe Leu Leu Pro Leu
325

<210> 38
 <211> 371
 <212> PRT
 <213> Arabidopsis thaliana

<400> 38

Met Ala Ser Val Thr Leu Gly Ser Trp Ile Val Val His His His Asn
 1 5 10 15

His His His Pro Ser Ser Ile Leu Thr Lys Ser Arg Ser Arg Ser Cys
 20 25 30

Pro Ile Thr Leu Thr Lys Pro Ile Ser Phe Arg Ser Lys Arg Thr Val
 35 40 45

Ser Ser Ser Ser Ser Ile Val Ser Ser Ser Val Val Thr Lys Glu Asp
 50 55 60

Asn Leu Arg Gln Ser Glu Pro Ser Ser Phe Asp Phe Met Ser Tyr Ile
 65 70 75 80

Ile Thr Lys Ala Glu Leu Val Asn Lys Ala Leu Asp Ser Ala Val Pro
 85 90 95

Leu Arg Glu Pro Leu Lys Ile His Glu Ala Met Arg Tyr Ser Leu Leu
 100 105 110

Ala Gly Gly Lys Arg Val Arg Pro Val Leu Cys Ile Ala Ala Cys Glu
 115 120 125

Leu Val Gly Gly Glu Glu Ser Thr Ala Met Pro Ala Ala Cys Ala Val
 130 135 140

Glu Met Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro Cys Met
 145 150 155 160

Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro Thr Asn His Lys Val Phe
 165 170 175

Gly Glu Asp Val Ala Val Leu Ala Gly Asp Ala Leu Leu Ser Phe Ala
 180 185 190

Phe Glu His Leu Ala Ser Ala Thr Ser Ser Asp Val Val Ser Pro Val
 195 200 205

Arg Val Val Arg Ala Val Gly Glu Leu Ala Lys Ala Ile Gly Thr Glu

210		215		220
Gly Leu Val Ala Gly Gln Val Val Asp Ile Ser Ser Glu Gly Leu Asp				
225		230		240
Leu Asn Asp Val Gly Leu Glu His Leu Glu Phe Ile His Leu His Lys				
	245		250	255
Thr Ala Ala Leu Leu Glu Ala Ser Ala Val Leu Gly Ala Ile Val Gly				
	260		265	270
Gly Gly Ser Asp Asp Glu Ile Glu Arg Leu Arg Lys Phe Ala Arg Cys				
	275		280	285
Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys				
	290		295	300
Ser Ser Lys Glu Leu Gly Lys Thr Ala Gly Lys Asp Leu Ile Ala Asp				
305		310		320
Lys Leu Thr Tyr Pro Lys Ile Met Gly Leu Glu Lys Ser Arg Glu Phe				
	325		330	335
Ala Glu Lys Leu Asn Arg Glu Ala Arg Asp Gln Leu Leu Gly Phe Asp				
	340		345	350
Ser Asp Lys Val Ala Pro Leu Leu Ala Leu Ala Asn Tyr Ile Ala Tyr				
	355		360	365
Arg Gln Asn				
370				
<210> 39				
<211> 288				
<212> PRT				
<213> Rhodobacter sphaeroides				
<400> 39				
Met Ala Phe Glu Gln Arg Ile Glu Ala Ala Met Ala Ala Ala Ile Ala				
1	5		10	15
Arg Gly Gln Gly Ser Glu Ala Pro Ser Lys Leu Ala Thr Ala Leu Asp				
	20		25	30
Tyr Ala Val Thr Pro Gly Gly Ala Arg Ile Arg Pro Thr Leu Leu Leu				
	35		40	45

Ser Val Ala Thr Arg Cys Gly Asp Ser Arg Pro Ala Leu Ser Asp Ala
50 55 60

Ala Ala Val Ala Leu Glu Leu Ile His Cys Ala Ser Leu Val His Asp
65 70 75 80

Asp Leu Pro Cys Phe Asp Asp Ala Glu Ile Arg Arg Gly Lys Pro Thr
85 90 95

Val His Arg Ala Tyr Ser Glu Pro Leu Ala Ile Leu Thr Gly Asp Ser
100 105 110

Leu Ile Val Met Gly Phe Glu Val Leu Ala Gly Ala Ala Asp Arg
115 120 125

Pro Gln Arg Ala Leu Gln Leu Val Thr Ala Leu Ala Val Arg Thr Gly
130 135 140

Met Pro Met Gly Ile Cys Ala Gly Gln Gly Trp Glu Ser Glu Ser Gln
145 150 155 160

Ile Asn Leu Ser Ala Tyr His Arg Ala Lys Thr Gly Ala Leu Phe Ile
165 170 175

Ala Ala Thr Gln Met Gly Ala Ile Ala Ala Gly Tyr Glu Ala Glu Pro
180 185 190

Trp Glu Glu Leu Gly Ala Arg Ile Gly Glu Ala Phe Gln Val Ala Asp
195 200 205

Asp Leu Arg Asp Ala Leu Cys Asp Ala Glu Thr Leu Gly Lys Pro Ala
210 215 220

Gly Gln Asp Glu Ile His Ala Arg Pro Ser Ala Val Arg Glu Tyr Gly
225 230 235 240

Val Glu Gly Ala Ala Lys Gly Leu Lys Asp Ile Leu Gly Gly Ala Ile
245 250 255

Ala Ser Ile Pro Ser Cys Pro Ala Glu Ala Met Leu Ala Glu Met Val
260 265 270

Arg Arg Tyr Ala Asp Lys Ile Val Pro Ala Gln Val Ala Ala Arg Val
275 280 285

<210> 40
 <211> 302
 <212> PRT
 <213> Synechocystis sp.

<400> 40

Met Val Ala Gln Gln Thr Arg Thr Asp Phe Asp Leu Ala Gln Tyr Leu
 1 5 10 15

Gln Val Lys Lys Gly Val Val Glu Ala Ala Leu Asp Ser Ser Leu Ala
 20 25 30

Ile Ala Arg Pro Glu Lys Ile Tyr Glu Ala Met Arg Tyr Ser Leu Leu
 35 40 45

Ala Gly Gly Lys Arg Leu Arg Pro Ile Leu Cys Ile Thr Ala Cys Glu
 50 55 60

Leu Cys Gly Gly Asp Glu Ala Leu Ala Leu Pro Thr Ala Cys Ala Leu
 65 70 75 80

Glu Met Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro Ser Met
 85 90 95

Asp Asn Asp Asp Phe Arg Arg Gly Lys Pro Thr Asn His Lys Val Tyr
 100 105 110

Gly Glu Asp Ile Ala Ile Leu Ala Gly Asp Gly Leu Leu Ala Tyr Ala
 115 120 125

Phe Glu Tyr Val Val Thr His Thr Pro Gln Ala Asp Pro Gln Ala Leu
 130 135 140

Leu Gln Val Ile Ala Arg Leu Gly Arg Thr Val Gly Ala Ala Gly Leu
 145 150 155 160

Val Gly Gly Gln Val Leu Asp Leu Glu Ser Glu Gly Arg Thr Asp Ile
 165 170 175

Thr Pro Glu Thr Leu Thr Phe Ile His Thr His Lys Thr Gly Ala Leu
 180 185 190

Leu Glu Ala Ser Val Leu Thr Gly Ala Ile Leu Ala Gly Ala Thr Gly
 195 200 205

Glu Gln Gln Gln Arg Leu Ala Arg Tyr Ala Gln Asn Ile Gly Leu Ala
 210 215 220

Phe Gln Val Val Asp Asp Ile Leu Asp Ile Thr Ala Thr Gln Glu Glu
 225 230 235 240

Leu Gly Lys Thr Ala Gly Lys Asp Val Lys Ala Gln Lys Ala Thr Tyr
 245 250 255

Pro Ser Leu Leu Gly Leu Glu Ala Ser Arg Ala Gln Ala Gln Ser Leu
 260 265 270

Ile Asp Gln Ala Ile Val Ala Leu Glu Pro Phe Gly Pro Ser Ala Glu
 275 280 285

Pro Leu Gln Ala Ile Ala Glu Tyr Ile Val Ala Arg Lys Tyr
 290 295 300

<210> 41
 <211> 376
 <212> PRT
 <213> Oryza sativa

<400> 41

Met His Val Leu Ala Gln Ser Thr Ala Val Ala Lys Val Ala Ala Ser
 1 5 10 15

Gly Cys Leu Arg Arg Ser Pro Asn Pro Ser Val Thr Phe Gln Arg Ser
 20 25 30

Pro Ser Leu Leu Leu Ser Pro Ala Ala Cys Arg Arg Arg Cys Arg Arg
 35 40 45

Gly Cys Ser Val Ser Val Asp Val Arg Cys Ser Leu Gly Ala Met Val
 50 55 60

Thr Pro Glu Leu Asn Gly Gly Asp Val Gly Val Gly Val Gly Gly Gly
 65 70 75 80

Ser Phe Asp Phe Gln Arg Tyr Leu Ser Ala Arg Ala Asp Ala Val His
 85 90 95

Asp Ala Leu Asp Arg Ala Met Pro Arg Gly Phe Pro Glu Arg Leu Cys
 100 105 110

Glu Ser Met Arg Tyr Ser Val Leu Ala Gly Gly Lys Arg Val Arg Pro
 115 120 125

Val Leu Ala Leu Ala Ala Cys Glu Leu Val Gly Gly Asp Ala Ala Ala
130 135 140
Ala Thr Pro Val Ala Cys Ala Val Glu Met Ile His Thr Met Ser Leu
145 150 155 160
Ile His Asp Asp Met Pro Cys Met Asp Asp Asp Ala Leu Arg Arg Gly
165 170 175
Arg Pro Ser Asn His Val Ala Phe Gly Glu Phe Thr Ala Leu Leu Ala
180 185 190
Gly Asp Ala Leu His Ala Leu Ala Phe Glu His Val Ala Arg Gly Cys
195 200 205
Gly Asp His Gly Val Pro Ala Asp Arg Thr Leu Arg Ala Val Ala Glu
210 215 220
Leu Gly Ser Ala Ser Gly Thr Gly Gly Val Ala Ala Gly Gln Val Ala
225 230 235 240
Asp Lys Glu Ser Glu Gly Leu Pro Val Ser Leu Ala Met Leu Glu Tyr
245 250 255
Ile His Val His Lys Thr Ala Arg Leu Leu Glu Ala Ala Ala Val Ser
260 265 270
Gly Ala Ile Val Gly Gly Gly Ala Asp Ala Glu Val Glu Arg Val Arg
275 280 285
Arg Tyr Ala Arg Cys Val Gly Leu Leu Phe Gln Val Val Asp Asp Val
290 295 300
Leu Asp Met Thr Ser Thr Ser Glu Gln Leu Gly Lys Thr Ala Gly Lys
305 310 315 320
Asp Val Glu Ala Asp Lys Ala Thr Tyr Pro Lys Leu Leu Gly Val Asp
325 330 335
Lys Ala Arg Glu Tyr Ala Ala Asp Leu Leu Ala Met Ala Glu Ala Glu
340 345 350
Leu Asp Gly Phe Asp Ala Glu Arg Ala Ala Pro Leu Arg His Leu Ala
355 360 365
Arg Phe Ile Ala Tyr Arg Gln His

370

375

<210> 42
 <211> 351
 <212> PRT
 <213> Scoparia dulcis

<400> 42

Met Ser Leu Val Asn Pro Val Ser Thr Trp Pro Asn Pro Thr Arg Ser
 1 5 10 15

Ser Val Phe Arg Pro Lys Pro Ala Ile Leu Asn Thr Thr His Leu Pro
 20 25 30

Ile Ser Phe Leu Phe Ala Gly Lys Pro Ile Ser Ala Val Leu Thr Lys
 35 40 45

Glu Tyr Ser His Gln Thr Ser Ser Thr Phe Asp Phe Lys Lys Tyr Met
 50 55 60

Leu Glu Lys Ala Ser Ser Val Asn Lys Ala Leu Glu Ser Ala Val Ser
 65 70 75 80

Leu Lys Glu Pro Leu Lys Ile His Glu Ser Met Arg Tyr Ser Leu Leu
 85 90 95

Ala Gly Gly Lys Arg Val Arg Pro Met Leu Cys Leu Ala Ala Cys Glu
 100 105 110

Leu Val Gly Gly His Pro Ser Thr Ala Met Pro Ala Ala Cys Ser Ile
 115 120 125

Glu Met Ile His Thr Met Ser Leu Met His Asp Asp Leu Pro Cys Met
 130 135 140

Asp Asn Asp His Leu Arg Arg Gly His Pro Thr Asn His Ile Val Phe
 145 150 155 160

Gly Glu Asp Val Ala Val Leu Ala Gly Asp Ala Leu Leu Ala Tyr Ser
 165 170 175

Phe Glu Tyr Leu Ala Thr Ala Thr Glu Gly Val Leu Pro Glu Arg Ile
 180 185 190

Val Arg Val Ile Ala Glu Leu Ala Lys Cys Ile Arg Ser Glu Gly Leu
 195 200 205

Leu Ala Gly Gln Val Val Asp Ile Cys Ser Glu Gly Val Ser Glu Ile
 210 215 220

Gly Leu Glu His Leu Glu Tyr Ile His Leu His Lys Thr Ala Ala Leu
 225 230 235 240

Leu Glu Gly Ser Val Val Leu Gly Ala Ile Leu Gly Gly Gly Asn Asp
 245 250 255

Glu Glu Val Glu Arg Leu Arg Lys Phe Ala Arg Cys Ile Gly Leu Leu
 260 265 270

Phe Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys Thr Ser Val Glu
 275 280 285

Leu Gly Lys Thr Ala Gly Lys Asp Leu Val Ala Asp Lys Thr Thr Tyr
 290 295 300

Pro Lys Leu Ile Gly Ile Glu Lys Ser Arg Glu Phe Ala Glu Lys Leu
 305 310 315 320

Asn Arg Glu Ala Gln Glu Gln Leu Val Gly Phe Asp Ser Asp Lys Ala
 325 330 335

Ala Pro Leu Ile Ala Leu Ala Asn Tyr Ile Ala Tyr Arg Glu Asn
 340 345 350

<210> 43
 <211> 368
 <212> PRT
 <213> Croton sublyratus

<400> 43

Met Ser Ser Val Asn Leu Gly Ser Trp Val His Thr Ser Ser Val Ile
 1 5 10 15

Ser Gln Ala Thr Arg Ser Arg Ser Lys Ser Lys Pro Leu Ser Phe Ser
 20 25 30

Pro Val Ser Ile Pro Leu Phe Tyr Arg Asn Ser Lys Arg Ser Val Ser
 35 40 45

Tyr Val Ser Ala Ile Val Thr Lys Asp Glu Glu Thr Ile Gln Glu Glu
 50 55 60

Gln Asn Lys Asn Ser Ser Ser Ser Leu Gly Phe Asp Phe Lys Ser Tyr

65					70					75					80
Met	Val	Gln	Lys	Ala	Ser	Ala	Ile	Asn	Gln	Ala	Leu	Glu	Ala	Ala	Val
				85					90					95	
Ser	Leu	Arg	Glu	Pro	Leu	Lys	Ile	His	Glu	Ser	Met	Arg	Tyr	Ser	Leu
			100					105					110		
Leu	Ala	Gly	Gly	Lys	Arg	Val	Arg	Pro	Ala	Leu	Cys	Leu	Ala	Ala	Cys
		115					120					125			
Glu	Leu	Val	Gly	Gly	Asp	Glu	Ser	Met	Ala	Met	Pro	Ala	Ala	Cys	Ala
	130					135					140				
Val	Glu	Met	Ile	His	Thr	Met	Ser	Leu	Ile	His	Asp	Asp	Leu	Pro	Cys
145					150					155					160
Met	Asp	Asn	Asp	Asp	Leu	Arg	Arg	Gly	Lys	Pro	Thr	Asn	His	Ile	Val
				165					170					175	
Phe	Gly	Glu	Asn	Val	Ala	Val	Leu	Ala	Gly	Asp	Ala	Leu	Leu	Ala	Phe
			180					185					190		
Ala	Phe	Glu	His	Ile	Ala	Val	Ser	Thr	Leu	Asn	Val	Ser	Pro	Val	Arg
		195					200					205			
Ile	Val	Arg	Gly	Val	Gly	Glu	Leu	Ala	Lys	Ala	Ile	Gly	Ala	Glu	Gly
	210					215					220				
Leu	Val	Ala	Gly	Gln	Val	Val	Asp	Ile	Cys	Ser	Glu	Gly	Leu	Ser	Glu
225					230					235					240
Val	Asp	Leu	Glu	Lys	Leu	Glu	Phe	Ile	His	Ile	His	Lys	Thr	Ala	Lys
				245					250					255	
Leu	Leu	Glu	Gly	Ala	Val	Val	Leu	Gly	Ala	Ile	Met	Gly	Gly	Gly	Thr
			260					265					270		
Asp	Glu	Glu	Val	Glu	Lys	Leu	Arg	Lys	Tyr	Ala	Arg	Asp	Ile	Gly	Leu
		275					280					285			
Leu	Phe	Gln	Val	Val	Asp	Asp	Ile	Leu	Asp	Val	Thr	Lys	Ser	Ser	Gln
	290					295					300				
Glu	Leu	Gly	Lys	Thr	Ala	Gly	Lys	Asp	Leu	Val	Ala	Asp	Lys	Val	Thr
305					310					315					320

Tyr Pro Lys Leu Met Gly Ile Glu Lys Ser Arg Glu Phe Ala Glu Lys
325 330 335

Leu Asn Lys Glu Ala Gln Glu Gln Leu Ala Gly Phe Asp Pro Glu Lys
340 345 350

Ala Ala Pro Leu Ile Ala Leu Ala Asn Tyr Ile Ala Tyr Arg Gln Asn
355 360 365

<210> 44

<211> 392

<212> PRT

<213> Streptomyces coelicolor

<400> 44

Met Arg Thr Thr Glu Ser Glu Lys Gly Leu Arg Met Pro Gly Leu Pro
1 5 10 15

Pro Met Val Ala Pro Pro Ala Glu Gln Val Asp Asp Pro Val Thr Ala
20 25 30

Thr Asp Ala Ala Asn Ala Val Asp Ala Val Leu Arg Gly Val Leu Asp
35 40 45

Glu Arg Leu Arg His Cys Arg Ala Val Asp Pro Leu Phe Ala Arg Glu
50 55 60

Leu Ala Asp Arg Leu Ala Ala Leu Thr Ala Arg Gly Gly Lys Arg Leu
65 70 75 80

Arg Thr Ala Phe Ala His Cys Gly Trp Arg Ala Ala Gly Gly Ser Gly
85 90 95

Asp Ala Thr Ala Val Leu Arg Thr Gly Ala Ala Leu Glu Leu Leu Gln
100 105 110

Ala Cys Ala Leu Val His Asp Asp Val Met Asp Gly Ser Val Gln Arg
115 120 125

Arg Gly Ala Pro Ala Leu His Val Asp Leu Ala Arg Gly His Trp Ala
130 135 140

Ala Gly Met His Gly Ser Ser Glu Ser Phe Gly Thr Ser Ala Ala Val
145 150 155 160

Leu Thr Gly Asp Leu Ala Leu Ala Trp Ala Asp Asp Leu Leu Thr Glu
165 170 175

Thr Ala Leu Gly Thr Pro His Gly Pro Arg Leu His Gly Glu Trp Arg
180 185 190

Ala Met Arg Thr Glu Met Val Ala Gly Gln Tyr Arg Asp Leu His Ala
195 200 205

Gln Ala Ala Arg Ser Ser Gly Val Asp Glu Ala Leu Ala Ile Ala Thr
210 215 220

Leu Lys Ser Ala Leu Tyr Thr Val Ala Arg Pro Leu Ala Leu Gly Ala
225 230 235 240

Val Leu Ala Gly Ala Ala Asp Gly Asp Ala Leu Glu Ala Leu Arg Ala
245 250 255

Ala Gly Arg Cys Ala Gly Leu Ala Phe Gln Leu Arg Asp Asp Leu Leu
260 265 270

Gly Ala Phe Gly Asp Pro Ala Leu Thr Gly Lys Pro Ala Asp Asp Asp
275 280 285

Leu Arg Ser Arg Lys Leu Thr Tyr Leu Leu Ala Val Ala Val Arg Leu
290 295 300

Ala Asp Ala Ala Asp Asp His Leu Ala Ala Ala Ala Leu Ala Pro Asp
305 310 315 320

Ala Asp Pro Lys Ser Glu Lys Ala Val Arg Gln Val Arg Ser Ala Leu
325 330 335

Val Arg Thr Gly Ala Arg Asp Leu Val Glu Thr Lys Ile Gly Glu Leu
340 345 350

Thr Asp Met Ser Leu Ala His Phe Asp Arg Cys Gly Ala Arg Pro Ala
355 360 365

Val Arg His Glu Phe Ala Ala Leu Ile Gly Arg Ala Thr Gly Ala Val
370 375 380

Pro Arg Gly Thr Gly Glu Val Val
385 390

<210> 45

<211> 291
 <212> PRT
 <213> Paracoccus marcusii

<400> 45

Met Arg Arg Asp Val Asn Pro Ile His Ala Thr Leu Leu Gln Thr Arg
 1 5 10 15

Ile Glu Glu Ile Ala Gln Gly Phe Gly Ala Val Leu Gln Pro Leu Gly
 20 25 30

Ala Ala Met Ala Ala Leu Ser Ser Gly Lys Arg Phe Arg Gly Met Leu
 35 40 45

Met Leu Leu Ala Ala Glu Ala Ser Gly Gly Val Cys Asp Thr Ile Val
 50 55 60

Asp Ala Ala Cys Ala Val Glu Met Val His Ala Ala Ser Leu Ile Phe
 65 70 75 80

Asp Asp Leu Pro Cys Met Asp Asp Ala Gly Leu Arg Arg Gly Gln Pro
 85 90 95

Ala Thr His Val Ala His Gly Glu Ser Arg Ala Val Leu Gly Gly Ile
 100 105 110

Ala Leu Ile Thr Glu Ala Met Ala Leu Leu Ala Gly Ala Arg Gly Ala
 115 120 125

Ser Gly Thr Val Arg Ala Gln Leu Val Arg Ile Leu Ser Arg Ser Leu
 130 135 140

Gly Pro Gln Gly Leu Cys Ala Gly Gln Asp Leu Asp Leu His Ala Ala
 145 150 155 160

Lys Asn Gly Ala Gly Val Glu Gln Glu Gln Asp Leu Lys Thr Gly Val
 165 170 175

Leu Phe Ile Ala Gly Leu Glu Met Leu Ala Val Ile Lys Glu Phe Asp
 180 185 190

Ala Glu Glu Gln Thr Gln Met Ile Asp Phe Gly Arg Gln Leu Gly Arg
 195 200 205

Val Phe Gln Ser Tyr Asp Asp Leu Leu Glu Val Val Gly Asp Gln Ala
 210 215 220

Ala Leu Gly Lys Asp Thr Gly Arg Asp Ala Ala Ala Pro Gly Pro Arg
 225 230 235 240

Arg Gly Leu Leu Ala Val Ser Asp Leu Gln Lys Val Ser Arg Gln Tyr
 245 250 255

Glu Ala Ser Arg Ala Gln Leu Glu Gly Met Val Gly Ser Lys Arg Leu
 260 265 270

Gln Ala Pro Glu Ile Glu Ala Leu Leu Glu Arg Val Leu Pro Tyr Ala
 275 280 285

Ala Arg Ala
 290

<210> 46
 <211> 300
 <212> PRT
 <213> Human

<400> 46

Met Glu Lys Thr Gln Glu Thr Val Gln Arg Ile Leu Leu Glu Pro Tyr
 1 5 10 15

Lys Tyr Leu Leu Gln Leu Pro Gly Lys Gln Val Arg Thr Lys Leu Ser
 20 25 30

Gln Ala Phe Asn His Trp Leu Lys Val Pro Glu Asp Lys Leu Gln Ile
 35 40 45

Ile Ile Glu Val Thr Glu Met Leu His Asn Ala Ser Leu Leu Ile Asp
 50 55 60

Asp Ile Glu Asp Asn Ser Lys Leu Arg Arg Gly Phe Pro Val Ala His
 65 70 75 80

Ser Ile Tyr Gly Ile Pro Ser Val Ile Asn Ser Ala Asn Tyr Val Tyr
 85 90 95

Phe Leu Gly Leu Glu Lys Val Leu Thr Leu Asp His Pro Asp Ala Val
 100 105 110

Lys Leu Phe Thr Arg Gln Leu Leu Glu Leu His Gln Gly Gln Gly Leu
 115 120 125

Asp Ile Tyr Trp Arg Asp Asn Tyr Thr Cys Pro Thr Glu Glu Glu Tyr

130		135		140
Lys Ala Met Val Leu Gln Lys Thr Gly Gly Leu Phe Gly Leu Ala Val				
145		150		155
				160
Gly Leu Met Gln Leu Phe Ser Asp Tyr Lys Glu Asp Leu Lys Pro Leu				
	165		170	175
Leu Asn Thr Leu Gly Leu Phe Phe Gln Ile Arg Asp Asp Tyr Ala Asn				
	180		185	190
Leu His Ser Lys Glu Tyr Ser Glu Asn Lys Ser Phe Cys Glu Asp Leu				
	195		200	205
Thr Glu Gly Lys Phe Ser Phe Pro Thr Ile His Ala Ile Trp Ser Arg				
	210		215	220
Pro Glu Ser Thr Gln Val Gln Asn Ile Leu Arg Gln Arg Thr Glu Asn				
225		230		235
				240
Ile Asp Ile Lys Lys Tyr Cys Val His Tyr Leu Glu Asp Val Gly Ser				
	245		250	255
Phe Glu Tyr Thr Arg Asn Thr Leu Lys Glu Leu Glu Ala Lys Ala Tyr				
	260		265	270
Lys Gln Ile Asp Ala Arg Gly Gly Asn Pro Glu Leu Val Ala Leu Val				
	275		280	285
Lys His Leu Ser Lys Met Phe Lys Glu Glu Asn Glu				
	290		295	300

<210> 47
 <211> 371
 <212> PRT
 <213> Arabidopsis thaliana

<400> 47

Met Ala Ser Val Thr Leu Gly Ser Trp Ile Val Val His His His Asn				
1		5		10
				15
His His His Pro Ser Ser Ile Leu Thr Lys Ser Arg Ser Arg Ser Cys				
	20		25	30
Pro Ile Thr Leu Thr Lys Pro Ile Ser Phe Arg Ser Lys Arg Thr Val				
	35		40	45

Ser Ser Ser Ser Ser Ile Val Ser Ser Ser Val Val Thr Lys Glu Asp
 50 55 60

Asn Leu Arg Gln Ser Glu Pro Ser Ser Phe Asp Phe Met Ser Tyr Ile
 65 70 75 80

Ile Thr Lys Ala Glu Leu Val Asn Lys Ala Leu Asp Ser Ala Val Pro
 85 90 95

Leu Arg Glu Pro Leu Lys Ile His Glu Ala Met Arg Tyr Ser Leu Leu
 100 105 110

Ala Gly Gly Lys Arg Val Arg Pro Val Leu Cys Ile Ala Ala Cys Glu
 115 120 125

Leu Val Gly Gly Glu Glu Ser Thr Ala Met Pro Ala Ala Cys Ala Val
 130 135 140

Glu Met Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro Cys Met
 145 150 155 160

Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro Thr Asn His Lys Val Phe
 165 170 175

Gly Glu Asp Val Ala Val Leu Ala Gly Asp Ala Leu Leu Ser Phe Ala
 180 185 190

Phe Glu His Leu Ala Ser Ala Thr Ser Ser Asp Val Val Ser Pro Val
 195 200 205

Arg Val Val Arg Ala Val Gly Glu Leu Ala Lys Ala Ile Gly Thr Glu
 210 215 220

Gly Leu Val Ala Gly Gln Val Val Asp Ile Ser Ser Glu Gly Leu Asp
 225 230 235 240

Leu Asn Asp Val Gly Leu Glu His Leu Glu Phe Ile His Leu His Lys
 245 250 255

Thr Ala Ala Leu Leu Glu Ala Ser Ala Val Leu Gly Ala Ile Val Gly
 260 265 270

Gly Gly Ser Asp Asp Glu Ile Glu Arg Leu Arg Lys Phe Ala Arg Cys
 275 280 285

Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys
 290 295 300

Ser Ser Lys Glu Leu Gly Lys Thr Ala Gly Lys Asp Leu Ile Ala Asp
 305 310 315 320

Lys Leu Thr Tyr Pro Lys Ile Met Gly Leu Glu Lys Ser Arg Glu Phe
 325 330 335

Ala Glu Lys Leu Asn Arg Glu Ala Arg Asp Gln Leu Leu Gly Phe Asp
 340 345 350

Ser Asp Lys Val Ala Pro Leu Leu Ala Leu Ala Asn Tyr Ile Ala Tyr
 355 360 365

Arg Gln Asn
 370

<210> 48
 <211> 326
 <212> PRT
 <213> Arabidopsis thaliana

<400> 48

Met Leu Phe Ser Gly Ser Ala Ile Pro Leu Ser Ser Phe Cys Ser Leu
 1 5 10 15

Pro Glu Lys Pro His Thr Leu Pro Met Lys Leu Ser Pro Ala Ala Ile
 20 25 30

Arg Ser Ser Ser Ser Ser Ala Pro Gly Ser Leu Asn Phe Asp Leu Arg
 35 40 45

Thr Tyr Trp Thr Thr Leu Ile Thr Glu Ile Asn Gln Lys Leu Asp Glu
 50 55 60

Ala Ile Pro Val Lys His Pro Ala Gly Ile Tyr Glu Ala Met Arg Tyr
 65 70 75 80

Ser Val Leu Ala Gln Gly Ala Lys Arg Ala Pro Pro Val Met Cys Val
 85 90 95

Ala Ala Cys Glu Leu Phe Gly Gly Asp Arg Leu Ala Ala Phe Pro Thr
 100 105 110

Ala Cys Ala Leu Glu Met Val His Ala Ala Ser Leu Ile His Asp Asp
 115 120 125

Leu Pro Cys Met Asp Asp Asp Pro Val Arg Arg Gly Lys Pro Ser Asn
 130 135 140

His Thr Val Tyr Gly Ser Gly Met Ala Ile Leu Ala Gly Asp Ala Leu
 145 150 155 160

Phe Pro Leu Ala Phe Gln His Ile Val Ser His Thr Pro Pro Asp Leu
 165 170 175

Val Pro Arg Ala Thr Ile Leu Arg Leu Ile Thr Glu Ile Ala Arg Thr
 180 185 190

Val Gly Ser Thr Gly Met Ala Ala Gly Gln Tyr Val Asp Leu Glu Gly
 195 200 205

Gly Pro Phe Pro Leu Ser Phe Val Gln Glu Lys Lys Phe Gly Ala Met
 210 215 220

Gly Glu Cys Ser Ala Val Cys Gly Gly Leu Leu Gly Gly Ala Thr Glu
 225 230 235 240

Asp Glu Leu Gln Ser Leu Arg Arg Tyr Gly Arg Ala Val Gly Met Leu
 245 250 255

Tyr Gln Val Val Asp Asp Ile Thr Glu Asp Lys Lys Lys Ser Tyr Asp
 260 265 270

Gly Gly Ala Glu Lys Gly Met Met Glu Met Ala Glu Glu Leu Lys Glu
 275 280 285

Lys Ala Lys Lys Glu Leu Gln Val Phe Asp Asn Lys Tyr Gly Gly Gly
 290 295 300

Asp Thr Leu Val Pro Leu Tyr Thr Phe Val Asp Tyr Ala Ala His Arg
 305 310 315 320

His Phe Leu Leu Pro Leu
 325

<210> 49
 <211> 393
 <212> PRT
 <213> Taxus canadensis

<400> 49

Met Ala Tyr Thr Ala Met Ala Ala Gly Thr Gln Ser Leu Gln Leu Arg
 1 5 10 15
 Thr Val Ala Ser Tyr Gln Glu Cys Asn Ser Met Arg Ser Cys Phe Lys
 20 25 30
 Leu Thr Pro Phe Lys Ser Phe His Gly Val Asn Phe Asn Val Pro Ser
 35 40 45
 Leu Gly Ala Ala Asn Cys Glu Ile Met Gly His Leu Lys Leu Gly Ser
 50 55 60
 Leu Pro Tyr Lys Gln Cys Ser Val Ser Ser Lys Ser Thr Lys Thr Met
 65 70 75 80
 Ala Gln Leu Val Asp Leu Ala Glu Thr Glu Lys Ala Glu Gly Lys Asp
 85 90 95
 Ile Glu Phe Asp Phe Asn Glu Tyr Met Lys Ser Lys Ala Val Ala Val
 100 105 110
 Asp Ala Ala Leu Asp Lys Ala Ile Pro Leu Glu Tyr Pro Glu Lys Ile
 115 120 125
 His Glu Ser Met Arg Tyr Ser Leu Leu Ala Gly Gly Lys Arg Val Arg
 130 135 140
 Pro Ala Leu Cys Ile Ala Ala Cys Glu Leu Val Gly Gly Ser Gln Asp
 145 150 155 160
 Leu Ala Met Pro Thr Ala Cys Ala Met Glu Met Ile His Thr Met Ser
 165 170 175
 Leu Ile His Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Phe Arg Arg
 180 185 190
 Gly Lys Pro Thr Asn His Lys Val Phe Gly Glu Asp Thr Ala Val Leu
 195 200 205
 Ala Gly Asp Ala Leu Leu Ser Phe Ala Phe Glu His Ile Ala Val Ala
 210 215 220
 Thr Ser Lys Thr Val Pro Ser Asp Arg Thr Leu Arg Val Ile Ser Glu
 225 230 235 240
 Leu Gly Lys Thr Ile Gly Ser Gln Gly Leu Val Gly Gly Gln Val Val

	245		250		255
Asp Ile Thr	Ser Glu Gly Asp Ala Asn Val Asp Leu Lys Thr Leu Glu				
	260		265		270
Trp Ile His	Ile His Lys Thr Ala Val Leu Leu Glu Cys Ser Val Val				
	275		280		285
Ser Gly Gly	Ile Leu Gly Gly Ala Thr Glu Asp Glu Ile Ala Arg Ile				
	290		295		300
Arg Arg Tyr	Ala Arg Cys Val Gly Leu Leu Phe Gln Val Val Asp Asp				
	305		310		315
Ile Leu Asp	Val Thr Lys Ser Ser Glu Glu Leu Gly Lys Thr Ala Gly				
		325		330	335
Lys Asp Leu	Leu Thr Asp Lys Ala Thr Tyr Pro Lys Leu Met Gly Leu				
		340		345	350
Glu Lys Ala	Lys Glu Phe Ala Ala Glu Leu Ala Thr Arg Ala Lys Glu				
		355		360	365
Glu Leu Ser	Ser Phe Asp Gln Ile Lys Ala Ala Pro Leu Leu Gly Leu				
		370		375	380
Ala Asp Tyr	Ile Ala Phe Arg Gln Asn				
		385		390	

<210> 50
 <211> 356
 <212> PRT
 <213> Helianthus annuus

<400> 50

Met Arg Pro	Met Ser Leu Val His Ser Cys Ser Ile Phe Thr Gly Ser
1	5 10 15
Ser Phe Ile	Lys Thr Thr Pro Ile Asn Asn Lys Pro Thr Phe Lys Ile
	20 25 30
His Gln Arg	Pro Thr Ile Arg Ser Thr Ile Ser Ala Ala Ile Val Glu
	35 40 45
Glu Glu Val	Val Glu Leu Gln Gln Lys Pro Lys Pro Thr Phe Asn Phe
	50 55 60

Asn Ala Tyr Met Leu Gly Lys Gly Asn Ser Val His Lys Ala Leu Asp
65 70 75 80

Glu Ser Ile Met Ile Lys Asn Pro Pro Thr Ile His Glu Ala Met Arg
85 90 95

Tyr Ser Leu Leu Ala Gly Gly Lys Arg Val Arg Pro Ile Leu Cys Ile
100 105 110

Ala Ala Cys Glu Leu Val Gly Gly Glu Glu Ala Thr Ala Met Pro Ala
115 120 125

Ala Cys Ala Val Glu Met Ile His Thr Met Ser Leu Ile His Asp Asp
130 135 140

Leu Pro Cys Met Asp Asn Asp Asp Phe Arg Arg Gly Lys Pro Thr Asn
145 150 155 160

His Lys Val Tyr Gly Glu Asp Val Ala Val Leu Ala Gly Asp Ser Leu
165 170 175

Leu Ala Phe Ala Phe Glu Tyr Val Ser Ser Arg Thr Glu Gly Ala Ser
180 185 190

Pro Ala Arg Val Leu Ala Ala Ile Gly Glu Leu Ala Lys Ser Ile Gly
195 200 205

Thr Glu Gly Leu Val Ala Gly Gln Val Val Asp Ile Ala Ser Thr Gly
210 215 220

Gly Gln Asp Ile Gly Leu Asp Gln Leu Glu Phe Ile His Ile His Lys
225 230 235 240

Thr Ala Ala Leu Leu Glu Ala Ser Val Val Leu Gly Ala Ile Leu Gly
245 250 255

Gly Gly Ser Asp Ala Gln Val Glu Lys Leu Arg Thr Phe Ala Arg Cys
260 265 270

Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys
275 280 285

Ser Ser Glu Glu Leu Gly Lys Thr Ala Gly Lys Asp Leu Leu Val Asp
290 295 300

Lys Thr Thr Tyr Pro Lys Leu Leu Gly Leu Asp Lys Ser Arg Gln Phe
 305 310 315 320

Ala Glu Glu Leu Leu Ala Glu Ala Lys Gln Gln Leu Glu Glu Phe Glu
 325 330 335

Ser Gln Ala Ala Val Ala Pro Leu Leu Ala Leu Ala Glu Tyr Ile Ala
 340 345 350

Tyr Arg Gln Asn
 355

<210> 51
 <211> 352
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 51

Met Ala Gly Ala Ile Thr Asp Gln Leu Arg Arg Tyr Leu His Gly Arg
 1 5 10 15

Arg Arg Ala Ala Ala His Met Gly Ser Asp Tyr Asp Gly Leu Ile Ala
 20 25 30

Asp Leu Glu Asp Phe Val Leu Gly Gly Gly Lys Arg Leu Arg Pro Leu
 35 40 45

Phe Ala Tyr Trp Gly Trp His Ala Val Ala Ser Arg Glu Pro Asp Pro
 50 55 60

Asp Val Leu Leu Leu Phe Ser Ala Leu Glu Leu Leu His Ala Trp Ala
 65 70 75 80

Leu Val His Asp Asp Leu Ile Asp Arg Ser Ala Thr Arg Arg Gly Arg
 85 90 95

Pro Thr Ala Gln Leu Arg Tyr Ala Ala Leu His Arg Asp Arg Asp Trp
 100 105 110

Arg Gly Ser Pro Asp Gln Phe Gly Met Ser Ala Ala Ile Leu Leu Gly
 115 120 125

Asp Leu Ala Gln Val Trp Ala Asp Asp Ile Val Ser Lys Val Cys Gln
 130 135 140

Ser Ala Leu Ala Pro Asp Ala Gln Arg Arg Val His Arg Val Trp Ala
 145 150 155 160

Asp Ile Arg Asn Glu Val Leu Gly Gly Gln Tyr Leu Asp Ile Val Ala
165 170 175

Glu Ala Ser Ala Ala Glu Ser Ile Glu Ser Ala Met Asn Val Ala Thr
180 185 190

Leu Lys Thr Ala Cys Tyr Thr Val Ser Arg Pro Leu Gln Leu Gly Thr
195 200 205

Ala Ala Ala Ala Asp Arg Ser Asp Val Ala Ala Ile Phe Glu His Phe
210 215 220

Gly Ala Asp Leu Gly Val Ala Phe Gln Leu Arg Asp Asp Val Leu Gly
225 230 235 240

Val Phe Gly Asp Pro Ala Val Thr Gly Lys Pro Ser Gly Asp Asp Leu
245 250 255

Lys Ser Gly Lys Arg Thr Val Leu Val Ala Glu Ala Val Glu Leu Ala
260 265 270

Asp Arg Ser Asp Pro Leu Ala Ala Lys Leu Leu Arg Thr Ser Ile Gly
275 280 285

Thr Arg Leu Thr Asp Ala Gln Val Arg Glu Leu Arg Thr Val Ile Glu
290 295 300

Ala Val Gly Ala Arg Ala Ala Ala Glu Ser Arg Ile Ala Ala Leu Thr
305 310 315 320

Gln Arg Ala Leu Ala Thr Leu Ala Ser Ala Pro Ile Asn Ala Thr Ala
325 330 335

Lys Ala Gly Leu Ser Glu Leu Ala Met Met Ala Ala Asn Arg Ser Ala
340 345 350

<210> 52
<211> 262
<212> PRT
<213> Aquifex aeolicus

<400> 52

Met Glu Arg Ile Glu Thr Trp Lys Glu Lys Ile Glu Lys Arg Leu Asn
1 5 10 15

Glu Ile Leu Lys Pro Glu Gly Pro Glu Glu Leu Ile Glu Ala Met Lys
 20 25 30

Tyr Tyr Pro Leu Gln Lys Gly Lys Arg Ile Arg Pro Leu Phe Thr Val
 35 40 45

Ala Val Ala Ser Ala Leu Gly Gly Asn Glu Asp Asp Ala Ile Thr Val
 50 55 60

Gly Ser Gly Ile Glu Leu Ile His Asn Tyr Ser Leu Ile His Asp Asp
 65 70 75 80

Leu Pro Cys Met Asp Asn Asp Val Trp Arg Arg Gly Leu Pro Thr Cys
 85 90 95

His Ile Lys Phe Gly Glu Ala Met Ala Leu Leu Ala Gly Asp Ala Leu
 100 105 110

Leu Thr Tyr Thr Phe Glu Val Leu Ser Gln Arg Glu Asn Tyr Lys Thr
 115 120 125

Leu Ser Cys Glu Glu Ile Leu Glu Ile Asn Lys Ile Ile Ala Gln Lys
 130 135 140

Ala Gly Ser Asn Gly Met Val Gly Gly Gln Val Leu Asp Ile Lys Gly
 145 150 155 160

Tyr Glu Asp Leu Tyr Glu Val Ser Val Lys Lys Thr Gly Ala Leu Phe
 165 170 175

Glu Ala Cys Phe Met Cys Gly Ala Val Val Ala Lys Arg Arg Glu Lys
 180 185 190

Leu Lys Glu Met Glu Ser Ile Gly Arg Lys Val Gly Leu Leu Phe Gln
 195 200 205

Met Val Asp Asp Tyr Leu Asp Lys Asp Gly Phe Tyr Glu Lys Leu Gly
 210 215 220

Glu Cys Leu Lys Glu Glu Ile Lys Lys Leu Tyr Glu Glu Leu Lys Glu
 225 230 235 240

Lys Glu Ile Phe Lys Glu Ser Gln Glu Leu Arg Tyr Leu Leu Asp Leu
 245 250 255

Ile Tyr Lys Arg Ile Thr

260

<210> 53
<211> 366
<212> PRT
<213> Sinapis alba

<400> 53

Met Ala Ser Ser Val Thr Pro Leu Gly Ser Trp Val Leu Leu His His
1 5 10 15

His Pro Ser Thr Ile Leu Thr Gln Ser Arg Ser Arg Ser Pro Pro Ser
20 25 30

Leu Ile Thr Leu Lys Pro Ile Ser Leu Thr Pro Lys Arg Thr Val Ser
35 40 45

Ser Ser Ser Ser Ser Ser Leu Ile Thr Lys Glu Asp Asn Asn Leu Lys
50 55 60

Ser Ser Ser Ser Ser Phe Asp Phe Met Ser Tyr Ile Ile Arg Lys Ala
65 70 75 80

Asp Ser Val Asn Lys Ala Leu Asp Ser Ala Val Pro Leu Arg Glu Pro
85 90 95

Leu Lys Ile His Glu Ala Met Arg Tyr Ser Leu Leu Ala Gly Gly Lys
100 105 110

Arg Val Arg Pro Val Leu Cys Ile Ala Ala Cys Glu Leu Val Gly Gly
115 120 125

Glu Glu Ser Leu Ala Met Pro Ala Arg Cys Ala Val Glu Met Ile His
130 135 140

Thr Met Ser Leu Ile His Asp Asp Leu Pro Cys Met Asp Asn Asp Asp
145 150 155 160

Leu Arg Arg Gly Lys Pro Thr Asn His Lys Val Tyr Gly Glu Asp Val
165 170 175

Ala Val Leu Ala Gly Asp Ala Leu Leu Ser Phe Ala Phe Glu His Leu
180 185 190

Ala Ser Ala Thr Ser Ser Glu Val Ser Pro Ala Arg Val Val Arg Ala
195 200 205

Val Gly Glu Leu Ala Lys Ala Ile Gly Thr Glu Gly Leu Val Ala Gly
 210 215 220

Gln Val Val Asp Ile Ser Ser Glu Gly Leu Asp Leu Asn Asn Val Gly
 225 230 235 240

Leu Glu His Leu Lys Phe Ile His Leu His Lys Thr Ala Ala Leu Leu
 245 250 255

Glu Ala Ser Ala Val Leu Gly Gly Ile Ile Gly Gly Gly Ser Asp Glu
 260 265 270

Glu Ile Glu Arg Leu Arg Lys Phe Ala Arg Cys Ile Gly Leu Leu Phe
 275 280 285

Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys Ser Ser Gln Glu Leu
 290 295 300

Gly Lys Thr Ala Gly Lys Asp Leu Ile Ala Asp Lys Leu Thr Tyr Pro
 305 310 315 320

Lys Leu Met Gly Leu Glu Lys Ser Arg Glu Phe Ala Glu Lys Leu Asn
 325 330 335

Thr Glu Ala Arg Asp Gln Leu Leu Gly Phe Asp Ser Asp Lys Val Ala
 340 345 350

Pro Leu Leu Ala Leu Ala Asn Tyr Ile Ala Asn Arg Gln Asn
 355 360 365

<210> 54
 <211> 222
 <212> PRT
 <213> Arabidopsis thaliana

<400> 54

Thr Ser Ser Leu Ile His Asp Asp Leu Pro Cys Met Asp Asn Ala Asp
 1 5 10 15

Leu Arg Arg Gly Lys Pro Thr Asn His Lys Val Tyr Gly Glu Asp Met
 20 25 30

Ala Val Leu Ala Gly Asp Ala Leu Leu Ala Leu Ala Phe Glu His Met
 35 40 45

Thr Val Val Ser Ser Gly Leu Val Ala Pro Glu Arg Met Ile Arg Ala

50		55		60
Val Val Glu Leu Ala Arg Ala Ile Gly Thr Thr Gly Leu Val Ala Gly				
65		70		75 80
Gln Met Ile Asp Leu Ala Ser Glu Arg Leu Asn Pro Asp Lys Val Gly				
	85		90	95
Leu Glu His Leu Glu Phe Ile His Leu His Lys Thr Ala Ala Leu Leu				
	100		105	110
Glu Ala Ala Ala Val Leu Gly Val Ile Met Gly Gly Gly Thr Glu Glu				
	115		120	125
Glu Ile Glu Lys Leu Arg Lys Tyr Ala Arg Cys Ile Gly Leu Leu Phe				
	130		135	140
Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys Ser Thr Glu Glu Leu				
145		150		155 160
Gly Lys Thr Ala Gly Lys Asp Val Met Ala Gly Lys Leu Thr Tyr Pro				
	165		170	175
Arg Leu Ile Gly Leu Glu Arg Ser Lys Glu Val Ala Glu Lys Leu Arg				
	180		185	190
Arg Glu Ala Glu Glu Gln Leu Leu Gly Phe Asp Pro Ser Lys Ala Ala				
	195		200	205
Pro Leu Val Ala Leu Ala Ser His Ile Ala Phe Arg His Asn				
	210		215	220
<210> 55				
<211> 357				
<212> PRT				
<213> Catharanthus roseus				
<400> 55				
Met Arg Ser Asn Leu Cys His Pro Leu Lys Asn Gln Leu Pro Ile Ser				
1		5		10 15
Phe Phe Leu Ser Gly Thr Ile Arg Lys Pro Ile Phe Ser Cys Ser Arg				
	20		25	30
Leu Ser Ile Ser Ala Ile Ile Thr Lys Glu Gln Thr Gln Glu Glu Ser				
	35		40	45

Glu Ser Lys Ser Lys Lys Glu Val Ala Phe Ser Ser Ser Ser Ser Phe
50 55 60

Asp Phe Lys Ala Tyr Met Ile Gly Lys Ala Asn Ser Val Asn Lys Ala
65 70 75 80

Leu Glu Asp Ala Val Leu Val Arg Glu Pro Leu Lys Ile His Glu Ser
85 90 95

Met Arg Tyr Ser Leu Leu Ala Gly Gly Lys Arg Val Arg Pro Met Leu
100 105 110

Cys Ile Ala Ala Cys Glu Leu Phe Gly Gly Thr Glu Ser Val Ala Met
115 120 125

Pro Ser Ala Cys Ala Val Glu Met Ile His Thr Met Ser Leu Met His
130 135 140

Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro
145 150 155 160

Thr Asn His Lys Val Phe Gly Glu Asp Val Ala Val Leu Ala Gly Asp
165 170 175

Ala Leu Leu Ala Phe Ala Phe Glu His Ile Ala Thr Ala Thr Lys Gly
180 185 190

Val Ser Ser Glu Arg Ile Val Arg Val Val Gly Glu Leu Ala Lys Cys
195 200 205

Ile Gly Ser Glu Gly Leu Val Ala Gly Gln Val Val Asp Val Cys Ser
210 215 220

Glu Gly Ile Ala Asp Val Gly Leu Glu His Leu Glu Phe Ile His Ile
225 230 235 240

His Lys Thr Ala Ala Leu Leu Glu Gly Ser Val Val Leu Gly Ala Ile
245 250 255

Val Gly Gly Ala Asn Asp Glu Gln Ile Ser Lys Leu Arg Lys Phe Ala
260 265 270

Arg Cys Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Val
275 280 285

Thr Lys Ser Ser Gln Glu Leu Gly Lys Thr Ala Gly Lys Asp Leu Val
 290 295 300

Ala Asp Lys Val Thr Tyr Pro Lys Leu Leu Gly Ile Asp Lys Ser Arg
 305 310 315 320

Glu Phe Ala Glu Lys Leu Asn Arg Glu Ala Gln Glu Gln Leu Ala Glu
 325 330 335

Phe Asp Pro Glu Lys Ala Ala Pro Leu Ile Ala Leu Ala Asn Tyr Ile
 340 345 350

Ala Tyr Arg Asp Asn
 355

<210> 56
 <211> 369
 <212> PRT
 <213> Capsicum annum

<400> 56

Met Arg Ser Met Asn Leu Val Asp Leu Trp Ala Gln Gln Ala Cys Leu
 1 5 10 15

Val Phe Asn Gln Thr Leu Ser Tyr Lys Ser Phe Asn Gly Phe Met Lys
 20 25 30

Ile Pro Leu Lys Asn Ser Lys Ile Asn Pro Lys Leu Asn Lys Lys Arg
 35 40 45

Pro Phe Ser Pro Leu Thr Val Ser Ala Ile Ala Thr Thr Lys Glu Asp
 50 55 60

Glu Arg Ile Glu Ala Ala Gln Thr Glu Glu Pro Phe Asn Phe Lys Ile
 65 70 75 80

Tyr Val Thr Glu Lys Ala Ile Ser Val Asn Lys Ala Leu Asp Glu Ala
 85 90 95

Ile Ile Val Lys Glu Pro His Val Ile His Glu Ala Met Arg Tyr Ser
 100 105 110

Leu Leu Ala Gly Gly Lys Arg Val Arg Pro Met Leu Cys Leu Ala Ala
 115 120 125

Cys Glu Leu Val Gly Gly Asn Gln Glu Asn Ala Met Ala Ala Ala Cys
 130 135 140

Ala Val Glu Met Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro
 145 150 155 160

Cys Met Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro Thr Asn His Lys
 165 170 175

Ile Tyr Gly Glu Asp Val Ala Val Leu Ala Gly Asp Ser Leu Leu Ala
 180 185 190

Phe Ala Phe Glu His Ile Val Asn Ser Thr Ala Gly Val Thr Pro Ser
 195 200 205

Arg Ile Val Gly Ala Val Ala Glu Leu Ala Lys Ser Ile Gly Thr Glu
 210 215 220

Gly Leu Val Ala Gly Gln Val Ala Asp Ile Lys Cys Thr Gly Asn Ala
 225 230 235 240

Ser Val Ser Leu Glu Thr Leu Glu Phe Ile His Val His Lys Thr Ala
 245 250 255

Ala Leu Leu Glu Ser Ser Val Val Leu Gly Ala Ile Leu Gly Gly Gly
 260 265 270

Thr Asn Val Glu Val Glu Lys Leu Arg Arg Phe Ala Arg Cys Ile Gly
 275 280 285

Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys Ser Ser
 290 295 300

Glu Glu Leu Gly Lys Thr Ala Gly Lys Asp Leu Val Val Asp Lys Thr
 305 310 315 320

Thr Tyr Pro Lys Leu Leu Gly Leu Glu Lys Ala Lys Glu Phe Ala Ala
 325 330 335

Glu Leu Asn Arg Glu Ala Lys Gln Gln Leu Glu Gly Phe Asp Ser Arg
 340 345 350

Lys Ala Ala Pro Leu Ile Ala Leu Ala Asp Tyr Ile Ala Tyr Arg Asp
 355 360 365

Asn

<210> 57
 <211> 157
 <212> PRT
 <213> Arabidopsis thaliana

<400> 57

Ala Val Glu Met Met His Thr Met Ser Leu Ile Lys Asp Asp Leu Pro
 1 5 10 15

Cys Met Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro Thr Thr His Lys
 20 25 30

Val Phe Gly Glu Ser Val Ala Ile Leu Ser Gly Gly Ala Leu Leu Ala
 35 40 45

Leu Ala Phe Glu His Leu Thr Glu Ala Asp Val Ser Ser Lys Lys Met
 50 55 60

Val Arg Ala Val Lys Glu Leu Ala Lys Ser Ile Gly Thr Lys Gly Leu
 65 70 75 80

Val Ala Gly Gln Ala Lys Asp Leu Ser Ser Glu Gly Leu Glu Gln Asn
 85 90 95

Asp Val Gly Leu Glu Asp Leu Glu Tyr Ile His Val His Lys Thr Gly
 100 105 110

Ser Leu Leu Glu Ala Ser Ala Val Ile Gly Ala Val Ile Gly Gly Gly
 115 120 125

Thr Glu Lys Glu Ile Glu Lys Val Arg Asn Phe Ala Arg Cys Ile Gly
 130 135 140

Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Val Thr
 145 150 155

<210> 58
 <211> 425
 <212> PRT
 <213> Streptomyces griseus

<400> 58

Met Gly Arg Arg Gln Pro Thr Lys His Ser Phe Ser Asp Ser Pro Arg
 1 5 10 15

Pro Ala His Asp Val Arg Gly Gly Arg His His Thr Pro Ser Ser Glu
 20 25 30

Asp Ala Arg Val Val Asp Ser Asp Val Val Gly Ser Val Leu Arg Thr
 35 40 45
 Ala Arg Ala Val Leu Ala Asp Arg Ile Asp Glu Ala Val Arg Ser Asp
 50 55 60
 Ala Ser Phe Cys Glu Glu Leu Ala Arg Arg Val Ala Asp Phe Thr Leu
 65 70 75 80
 Glu Gly Gly Lys Arg Met Arg Pro Arg Leu Leu Trp Trp Gly Met Arg
 85 90 95
 Ser Cys Gly Ala Ala Glu Thr Ala Ala Ala Leu Arg Leu Gly Val Ala
 100 105 110
 Leu Glu Leu Ile Gln Ser Cys Ala Leu Ile His Asp Asp Val Met Asp
 115 120 125
 Arg Ser Arg Leu Arg Arg Gly Lys Pro Ala Met His Ile Gly Leu Ala
 130 135 140
 Glu Arg Ala Gly Leu Ser Pro Asp Ser Glu Arg Gly Ser Asp Phe Gly
 145 150 155 160
 Ala Ser Ala Ala Val Leu Ala Gly Asp Leu Ala Leu Val Trp Ala Asp
 165 170 175
 Asp Thr Val Ala Glu Thr Val Leu Ser Ala Ala Gln Arg Arg Arg Ile
 180 185 190
 Gly Ala Leu Trp Arg Ala Met Arg Thr Glu Met Val Ala Gly Gln Tyr
 195 200 205
 Leu Asp Leu Arg Gly Gln Leu Ser Gly Gly Ser Ser Val Ala Gln Ala
 210 215 220
 Leu Arg Thr Ala Cys Leu Lys Ser Ala Ser Tyr Ser Val Glu Arg Pro
 225 230 235 240
 Leu Ala Ile Gly Ala Ala Leu Ala Gly Ala Asp Asp Arg Thr Thr Asp
 245 250 255
 Ala Leu Arg Ser Ala Gly Arg Cys Ala Gly Ile Ala Phe Gln Leu Arg
 260 265 270

Asp Asp Leu Leu Gly Val Phe Gly Asp Pro Ala Leu Thr Gly Lys Pro
 275 280 285

Ser Gly Asp Asp Ile Arg Glu Gly Lys Ser Thr Tyr Leu Leu Ala Val
 290 295 300

Ala Arg Asn Ser Ala Glu Ala Ser Gly Asp Glu Gln Ala Leu Ala Val
 305 310 315 320

Leu Gly Arg Ala Thr Gly Asn Ala Asp Leu Thr Glu Glu Asp Leu Ala
 325 330 335

Asp Val Arg Gly Val Leu Glu Val Thr Gly Ala Arg Ala His Val Glu
 340 345 350

Arg Lys Ala Glu His Leu Arg Asp His Ala Val Arg Arg Leu Gly Gln
 355 360 365

Ala Val Asp Val Asp Ala His Gly Gly Arg Gln Leu Leu Gly Leu Leu
 370 375 380

Arg Thr Val Ser Gly Glu Arg Thr Ala His Ser Pro Thr Thr Ala Gly
 385 390 395 400

Glu Thr His Gly Gly Gly Thr Gly Val Ala Gly Ala Ser Pro Val Leu
 405 410 415

Met Thr Thr Glu Gly Gly Asn Ala Gly
 420 425

<210> 59
 <211> 316
 <212> PRT
 <213> Lupinus albus

<400> 59

Met Leu Thr Lys Glu Asp Thr Val Lys Asp Lys Glu Glu Glu Glu Glu
 1 5 10 15

Glu Glu Glu Lys Pro Arg Phe Asn Phe Asn Leu Tyr Met Val Glu Lys
 20 25 30

Ser Arg Ser Val Asn Gln Ala Leu Asn Asp Ala Val Ser Leu Arg Glu
 35 40 45

Pro His Lys Ile His Glu Ala Met Arg Tyr Ser Leu Leu Ala Gly Gly

50					55					60					
Lys	Arg	Val	Arg	Pro	Val	Leu	Cys	Ile	Ala	Ala	Cys	Glu	Val	Val	Gly
65					70					75					80
Gly	Asn	Glu	Ser	Thr	Ala	Met	Ala	Ala	Ala	Cys	Ser	Ile	Glu	Met	Ile
				85					90					95	
His	Thr	Met	Ser	Leu	Ile	His	Asp	Asp	Leu	Pro	Cys	Met	Asp	Asn	Asp
			100					105					110		
Asp	Leu	Arg	Arg	Gly	Lys	Pro	Thr	Asn	His	Lys	Val	Phe	Gly	Glu	Asn
		115					120					125			
Ile	Ala	Val	Leu	Ala	Gly	Asp	Ala	Leu	Leu	Ala	Phe	Ala	Phe	Glu	His
	130					135					140				
Ile	Ala	Val	Ser	Thr	Ser	Gly	Val	Ser	Pro	Glu	Arg	Ile	Ile	Gly	Ala
145					150					155					160
Ile	Gly	Glu	Leu	Ala	Lys	Ser	Ile	Gly	Thr	Glu	Gly	Leu	Val	Ala	Gly
				165					170					175	
Gln	Val	Val	Asp	Ile	Asn	Ser	Glu	Gly	Leu	Cys	Asp	Ile	Gly	Leu	Glu
			180					185					190		
Lys	Leu	Glu	Phe	Ile	His	Leu	His	Lys	Thr	Ala	Ala	Leu	Leu	Glu	Gly
		195					200					205			
Ser	Val	Val	Val	Gly	Ala	Ile	Leu	Gly	Gly	Gly	Cys	Asn	Glu	Glu	Val
	210					215					220				
Glu	Lys	Leu	Arg	Met	Phe	Ala	Arg	Tyr	Ile	Gly	Leu	Met	Phe	Gln	Val
225					230					235					240
Val	Asp	Asp	Val	Leu	Asp	Val	Thr	Lys	Ser	Ser	Lys	Glu	Leu	Gly	Lys
				245					250					255	
Thr	Ala	Gly	Lys	Asp	Leu	Val	Ala	Asp	Lys	Val	Thr	Tyr	Pro	Lys	Leu
			260					265					270		
Leu	Gly	Ile	Glu	Lys	Ser	Asn	Glu	Phe	Ala	Gln	Lys	Leu	Asn	Arg	Asp
		275					280					285			
Ala	Gln	Glu	Gln	Leu	Ser	Gly	Phe	Asp	Pro	Val	Lys	Val	Ala	Pro	Leu
	290					295					300				

Ile Ala Leu Ala Asn Tyr Ile Ala Tyr Ser Pro Asn
 305 310 315

<210> 60
 <211> 326
 <212> PRT
 <213> Arabidopsis thaliana

<400> 60

Met Leu Phe Ser Gly Ser Ala Ile Pro Leu Ser Ser Phe Cys Ser Leu
 1 5 10 15

Pro Glu Lys Pro His Thr Leu Pro Met Lys Leu Ser Pro Ala Ala Ile
 20 25 30

Arg Ser Ser Ser Ser Ser Ala Pro Gly Ser Leu Asn Phe Asp Leu Arg
 35 40 45

Thr Tyr Trp Thr Thr Leu Ile Thr Glu Ile Asn Gln Lys Leu Asp Glu
 50 55 60

Ala Ile Pro Val Lys His Pro Ala Gly Ile Tyr Glu Ala Met Arg Tyr
 65 70 75 80

Ser Val Leu Pro Gln Gly Pro Lys Arg Ala Pro Pro Val Met Cys Val
 85 90 95

Ala Ala Cys Glu Leu Phe Gly Gly Asp Arg Leu Ala Ala Phe Pro Thr
 100 105 110

Ala Cys Ala Leu Glu Met Val His Ala Ala Ser Leu Ile His Asp Asp
 115 120 125

Leu Pro Cys Met Asp Asp Asp Pro Val Arg Arg Gly Lys Pro Ser Asn
 130 135 140

His Thr Val Tyr Gly Ser Gly Met Ala Ile Leu Ala Gly Asp Ala Leu
 145 150 155 160

Phe Pro Leu Ala Phe Gln His Ile Val Ser His Thr Pro Pro Asp Leu
 165 170 175

Val Pro Arg Ala Thr Ile Leu Arg Leu Ile Thr Glu Ile Ala Arg Thr
 180 185 190

Val Gly Ser Thr Gly Met Ala Ala Gly Gln Tyr Val Asp Leu Glu Gly
 195 200 205

Gly Pro Phe Pro Leu Ser Phe Val Gln Glu Lys Lys Phe Gly Ala Met
 210 215 220

Gly Glu Cys Ser Ala Val Cys Gly Gly Leu Leu Gly Gly Ala Thr Glu
 225 230 235 240

Asp Glu Leu Gln Ser Leu Arg Arg Tyr Gly Arg Ala Val Gly Met Leu
 245 250 255

Tyr Gln Val Val Asp Asp Ile Thr Glu Asp Lys Lys Lys Ser Tyr Asp
 260 265 270

Gly Gly Ala Glu Lys Gly Met Met Glu Met Ala Glu Glu Leu Lys Glu
 275 280 285

Lys Ala Lys Lys Glu Leu Gln Val Phe Asp Asn Lys Tyr Gly Gly Gly
 290 295 300

Asp Thr Leu Val Pro Leu Tyr Thr Phe Val Asp Tyr Ala Ala His Arg
 305 310 315 320

His Phe Leu Leu Pro Leu
 325

<210> 61
 <211> 300
 <212> PRT
 <213> Cyanophora paradoxa

<400> 61

Met Lys Pro Leu Gln Thr Asn Phe Asn Leu Leu Thr Tyr Leu Tyr Glu
 1 5 10 15

Arg Lys Glu Ile Val Glu Asp Thr Leu Asn Lys Ser Ile Pro Arg Gly
 20 25 30

Asn Pro Thr Phe Ile Tyr Asp Ser Ile Arg Tyr Ser Leu Ser Ala Gly
 35 40 45

Gly Lys Arg Ile Arg Pro Ile Leu Cys Leu Ala Ser Cys Glu Leu Ala
 50 55 60

Gly Gly Thr Met Glu Met Ala Leu Pro Thr Ala Cys Ala Leu Glu Met
 65 70 75 80

Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro Ala Met Asp Asn
85 90 95

Asp Ser Tyr Arg Arg Gly Lys Pro Thr Asn His Ile Ile Tyr Gly Glu
100 105 110

Asp Leu Ala Ile Leu Ala Gly Asp Ala Leu Leu Ala Tyr Ala Phe Glu
115 120 125

Phe Ile Ala Thr Gln Thr Lys Asn Val Pro Ala Asp Leu Ile Val Lys
130 135 140

Val Ile Ala Gln Val Ala His Ser Val Thr Thr Ser Gly Leu Val Gly
145 150 155 160

Gly Gln Ile Ile Asp Leu Ser Ser Glu Gly Lys Ser Asp Thr Thr Leu
165 170 175

Glu Thr Leu Asn Phe Ile His Ile His Lys Thr Gly Ala Leu Leu Glu
180 185 190

Ala Ala Val Leu Ser Gly Ala Leu Leu Ala Gly Ala Lys Glu Lys Asp
195 200 205

Met Asn Arg Phe Leu Arg Tyr Ala Gln Asn Ile Gly Leu Ala Phe Gln
210 215 220

Ile Ile Asp Asp Val Leu Asp Ile Ile Ser Thr Glu Glu Lys Leu Gly
225 230 235 240

Lys Ser Ile Gly Lys Asp Leu Lys Thr Gln Lys Ala Thr Tyr Pro Ser
245 250 255

Phe Trp Gly Val Glu Glu Ser Ile Lys Gln Ala Glu Leu Leu Val Glu
260 265 270

Glu Ala Lys Glu Glu Ile Leu Tyr Phe Asp Asn Lys Ala Ile Pro Leu
275 280 285

Ile Ala Ile Ala Asp Phe Ile Val Asn Arg Asn Asn
290 295 300

<210> 62
<211> 371
<212> PRT

<213> Arabidopsis thaliana

<400> 62

Met Ala Ser Val Thr Leu Gly Ser Trp Ile Val Val His His His Asn
1 5 10 15

His His His Pro Ser Ser Ile Leu Thr Lys Ser Arg Ser Arg Ser Cys
20 25 30

Pro Ile Thr Leu Thr Lys Pro Ile Ser Phe Arg Ser Lys Arg Thr Val
35 40 45

Ser Ser Ser Ser Ser Ile Val Ser Ser Ser Val Val Thr Lys Glu Asp
50 55 60

Asn Leu Arg Gln Ser Glu Pro Ser Ser Phe Asp Phe Met Ser Tyr Ile
65 70 75 80

Ile Thr Lys Ala Glu Leu Val Asn Lys Ala Leu Asp Ser Ala Val Pro
85 90 95

Leu Arg Glu Pro Leu Lys Ile His Glu Ala Met Ser Tyr Ser Leu Leu
100 105 110

Ala Gly Gly Lys Arg Val Arg Pro Val Leu Cys Ile Ala Ala Cys Glu
115 120 125

Leu Val Gly Gly Glu Glu Ser Thr Ala Met Pro Ala Arg Cys Ala Val
130 135 140

Glu Met Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro Cys Met
145 150 155 160

Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro Thr Asn His Lys Val Phe
165 170 175

Gly Glu Asp Val Ala Val Leu Ala Gly Asp Ala Leu Leu Ser Phe Ser
180 185 190

Phe Glu His Leu Ala Ser Ala Thr Ser Ser Asp Val Val Ser Pro Val
195 200 205

Arg Val Val Arg Ala Val Gly Glu Leu Ala Lys Ala Ile Gly Thr Glu
210 215 220

Gly Leu Val Ala Gly Gln Val Val Asp Ile Ser Ser Glu Gly Leu Asp

225 230 235 240
 Leu Asn Asp Val Gly Leu Glu His Leu Glu Phe Ile His Leu His Lys
 245 250 255
 Thr Ala Ala Leu Leu Glu Ala Ser Ala Val Leu Gly Ala Ile Val Gly
 260 265 270
 Gly Gly Ser Asp Asp Glu Ile Glu Arg Leu Arg Lys Phe Ala Arg Cys
 275 280 285
 Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys
 290 295 300
 Ser Ser Lys Glu Leu Gly Lys Thr Ala Gly Lys Asp Leu Ile Ala Asp
 305 310 315 320
 Lys Leu Thr Tyr Pro Lys Ile Met Gly Leu Glu Lys Ser Arg Glu Phe
 325 330 335
 Ala Glu Lys Leu Asn Arg Glu Ala Arg Asp Gln Leu Leu Gly Phe Asp
 340 345 350
 Ser Asp Lys Val Ala Pro Leu Leu Ala Leu Ala Asn Tyr Ile Ala Tyr
 355 360 365
 Arg Gln Asn
 370

<210> 63
 <211> 344
 <212> PRT
 <213> Arabidopsis thaliana

<400> 63

Met Glu Asn Arg Glu Val Phe Val Tyr Ile Val Ile Ser Ile Phe Arg
 1 5 10 15
 Ser Leu Gln Phe Leu Phe Trp Arg Phe Arg Pro Arg Tyr Asn Asp Val
 20 25 30
 Thr Ser Ala Leu Thr Arg Pro Leu Thr Ser Ala Ala Ser Tyr Asp Phe
 35 40 45
 Lys Phe Met Ser Tyr Met Val Asn Lys Ala Lys Ser Val Asn Lys Ala
 50 55 60

Leu Glu Glu Ala Val Pro Leu Arg Glu Pro Glu Leu Lys Ile Arg Glu
65 70 75 80

Ala Met Arg Tyr Thr Leu Leu Ser Asp Gly Lys Arg Val Arg Pro Met
85 90 95

Leu Cys Leu Ala Ala Cys Glu Leu Val Gly Gly Gln Glu Ser Thr Ala
100 105 110

Met Ser Ala Ala Cys Ala Ile Glu Met Leu His Ala Ser Ser Leu Ile
115 120 125

Leu Asp Asp Leu Pro Cys Met Asp Asn Asp Ser Leu Arg Arg Gly Lys
130 135 140

Pro Thr Asn His Ile Val Phe Gly Glu Ser Ile Ala Ile Leu Ala Ser
145 150 155 160

Gln Ala Leu Ile Ala Leu Ala Val Gln Lys Thr Thr Ser Ser Thr Phe
165 170 175

Ala Asp Val Pro Pro Glu Arg Ile Leu Lys Thr Val Gln Glu Met Val
180 185 190

Lys Ala Val Glu Gly Leu Val Ala Gly Gln Gln Ala Asp Leu Ala Gly
195 200 205

Glu Gly Met Arg Phe Asp Ser Asp Thr Gly Leu Glu His Leu Glu Phe
210 215 220

Ile His Ile His Lys Thr Ala Ala Leu Leu Glu Ala Ala Ala Val Met
225 230 235 240

Gly Ala Ile Met Gly Gly Gly Ser Asp Glu Glu Ile Glu Arg Leu Arg
245 250 255

Ser Tyr Ala Arg Cys Ile Gly Leu Met Phe Gln Val Val Asp Asp Val
260 265 270

Leu Asp Val Thr Lys Ser Ser Glu Glu Leu Gly Lys Thr Ala Gly Lys
275 280 285

Asp Leu Ile Ala Gly Lys Leu Thr Tyr Pro Arg Leu Met Gly Val Glu
290 295 300

Lys Ser Lys Glu Tyr Ala Glu Arg Leu Asn Ile Glu Ala Arg Glu His
 305 310 315 320

Leu Leu Gly Phe Asp Ile Asp Lys Val Ala Pro Leu Val Ser Leu Ala
 325 330 335

Asp Tyr Ile Val Asn Arg Gln Asn
 340

<210> 64
 <211> 343
 <212> PRT
 <213> Arabidopsis thaliana

<400> 64

Met Leu Cys Lys Ile Ile Ile Met Arg Pro Cys Tyr Ser Leu Val Leu
 1 5 10 15

Ser Ala Met Arg Leu Ile Arg Pro Ser Asn Arg Arg Leu Ser Ser Ile
 20 25 30

Ala Ser Ser Asp Ser Glu Phe Ile Ser Tyr Met Asn Asn Lys Ala Lys
 35 40 45

Ser Ile Asn Lys Ala Leu Asp Asn Ser Ile Pro Leu Cys Asn Asn Ser
 50 55 60

Val Pro Leu Trp Glu Pro Val Leu Glu Val His Lys Ala Met Arg Tyr
 65 70 75 80

Thr Leu Leu Ser Gly Gly Lys Arg Val Arg Pro Met Leu Cys Leu Val
 85 90 95

Ala Cys Glu Leu Val Gly Gly Gln Glu Ser Thr Ala Met Pro Ala Ala
 100 105 110

Cys Ala Val Glu Met Ile His Ala Ala Ser Leu Ile Leu Asp Asp Leu
 115 120 125

Pro Cys Met Asp Asp Asp Ser Leu Arg Arg Gly Ile Pro Thr Asn His
 130 135 140

Lys Val Phe Gly Glu Lys Thr Ser Ile Leu Ala Ser Asn Ala Leu Met
 145 150 155 160

Ser Leu Ala Val Lys Gln Thr Leu Ala Ser Thr Ser Leu Gly Val Thr
 165 170 175

Ser Glu Arg Val Leu Arg Ala Val Gln Glu Met Ala Arg Ala Val Gly
180 185 190

Thr Glu Gly Leu Val Ala Gly Gln Ala Ala Asp Leu Ala Gly Glu Arg
195 200 205

Met Ser Phe Lys Asn Glu Asp Asp Glu Leu Arg Tyr Leu Glu Leu Met
210 215 220

His Val His Lys Thr Ala Val Leu Val Glu Ala Ala Ala Val Val Gly
225 230 235 240

Ala Ile Met Gly Gly Gly Ser Asp Glu Glu Ile Glu Arg Leu Lys Ser
245 250 255

Tyr Ala Arg Cys Val Gly Leu Met Phe Gln Val Met Asp Asp Val Leu
260 265 270

Asp Glu Thr Lys Ser Ser Glu Glu Leu Gly Lys Thr Ala Gly Lys Asp
275 280 285

Leu Ile Thr Gly Lys Leu Thr Tyr Pro Lys Val Met Gly Val Asp Asn
290 295 300

Ala Arg Glu Tyr Ala Lys Arg Leu Asn Arg Glu Ala Gln Glu His Leu
305 310 315 320

Gln Gly Phe Asp Ser Asp Lys Val Val Pro Leu Leu Ser Leu Ala Asp
325 330 335

Tyr Ile Val Lys Arg Gln Asn
340

<210> 65
<211> 336
<212> PRT
<213> Arabidopsis thaliana

<400> 65

Met Arg Pro Arg Tyr Ser Leu Ile Leu Ser Ala Met Arg Leu Ile Arg
1 5 10 15

Pro Ser Asn Arg Arg Leu Ser Ser Ile Ala Ser Ser Asp Ser Glu Phe
20 25 30

Ile Ser Tyr Met Lys Asn Lys Ala Lys Ser Ile Asn Lys Ala Leu Asp
 35 40 45
 Asn Ser Ile Pro Leu Cys Asn Asn Phe Val Pro Leu Trp Glu Pro Val
 50 55 60
 Leu Glu Val His Lys Ala Met Arg Tyr Thr Leu Leu Pro Gly Gly Lys
 65 70 75 80
 Arg Val Arg Pro Met Leu Cys Leu Val Ala Cys Glu Leu Val Gly Gly
 85 90 95
 Gln Glu Ser Thr Ala Met Pro Ala Ala Cys Ala Val Glu Met Ile His
 100 105 110
 Ala Ala Ser Leu Ile Leu Asp Asp Leu Pro Cys Met Asp Asp Asp Ser
 115 120 125
 Leu Arg Arg Gly Lys Pro Thr Asn His Lys Val Phe Gly Glu Lys Thr
 130 135 140
 Ser Ile Leu Ala Ser Asn Ala Leu Arg Ser Leu Ala Val Lys Gln Thr
 145 150 155 160
 Leu Ala Ser Thr Ser Leu Gly Val Thr Ser Glu Arg Val Leu Arg Ala
 165 170 175
 Val Gln Glu Met Ala Arg Ala Val Gly Thr Glu Gly Leu Val Ala Gly
 180 185 190
 Gln Ala Ala Asp Leu Ala Gly Glu Arg Met Ser Phe Lys Asn Glu Asp
 195 200 205
 Asp Glu Leu Arg Tyr Leu Glu Leu Met His Val His Lys Thr Ala Val
 210 215 220
 Leu Val Glu Ala Ala Ala Val Val Gly Ala Ile Met Gly Gly Gly Ser
 225 230 235 240
 Asp Glu Glu Ile Glu Arg Leu Lys Ser Tyr Ala Arg Cys Val Gly Leu
 245 250 255
 Met Phe Gln Val Met Asp Asp Val Leu Asp Glu Thr Lys Ser Ser Glu
 260 265 270
 Glu Leu Gly Lys Thr Ala Gly Lys Asp Leu Ile Thr Gly Lys Leu Thr

275	280	285
Tyr Pro Lys Val Met Gly Val Asp Asn Ala Arg Glu Tyr Ala Lys Arg		
290	295	300
Leu Asn Arg Glu Ala Gln Glu His Leu Gln Gly Phe Asp Ser Asp Lys		
305	310	315
Val Val Pro Leu Leu Ser Leu Ala Asp Tyr Ile Val Lys Arg Gln Asn		
325	330	335
<210> 66		
<211> 300		
<212> PRT		
<213> Cyanophora paradoxa		
<400> 66		
Met Lys Pro Leu Gln Thr Asn Phe Asn Leu Leu Thr Tyr Leu Tyr Glu		
1	5	10
Arg Lys Glu Ile Val Glu Asp Thr Leu Asn Lys Ser Ile Pro Arg Gly		
	20	25
Asn Pro Thr Phe Ile Tyr Asp Ser Ile Arg Tyr Ser Leu Ser Ala Gly		
	35	40
Gly Lys Arg Ile Arg Pro Ile Leu Cys Leu Ala Ser Cys Glu Leu Ala		
50	55	60
Gly Gly Thr Met Glu Met Ala Leu Pro Thr Ala Cys Ala Leu Glu Met		
65	70	75
Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro Ala Met Asp Asn		
	85	90
Asp Ser Tyr Arg Arg Gly Lys Pro Thr Asn His Ile Ile Tyr Gly Glu		
	100	105
Asp Leu Ala Ile Leu Ala Gly Asp Ala Leu Leu Ala Tyr Ala Phe Glu		
	115	120
Phe Ile Ala Thr Gln Thr Lys Asn Val Pro Ala Asp Leu Ile Val Lys		
	130	135
Val Ile Ala Gln Val Ala His Ser Val Thr Thr Ser Gly Leu Val Gly		
145	150	155
		160

Gly Gln Ile Ile Asp Leu Ser Ser Glu Gly Lys Ser Asp Thr Thr Leu
165 170 175

Glu Thr Leu Asn Phe Ile His Ile His Lys Thr Gly Ala Leu Leu Glu
180 185 190

Ala Ala Val Leu Ser Gly Ala Leu Leu Ala Gly Ala Lys Glu Lys Asp
195 200 205

Met Asn Arg Phe Leu Arg Tyr Ala Gln Asn Ile Gly Leu Ala Phe Gln
210 215 220

Ile Ile Asp Asp Val Leu Asp Ile Ile Ser Thr Glu Glu Lys Leu Gly
225 230 235 240

Lys Ser Ile Gly Lys Asp Leu Lys Thr Gln Lys Ala Thr Tyr Pro Ser
245 250 255

Phe Trp Gly Val Glu Glu Ser Ile Lys Gln Ala Glu Leu Leu Val Glu
260 265 270

Glu Ala Lys Glu Glu Ile Leu Tyr Phe Asp Asn Lys Ala Ile Pro Leu
275 280 285

Ile Ala Ile Ala Asp Phe Ile Val Asn Arg Asn Asn
290 295 300

<210> 67
<211> 376
<212> PRT
<213> Oryza sativa

<400> 67

Met His Val Leu Ala Gln Ser Thr Ala Val Ala Lys Val Ala Ala Ser
1 5 10 15

Gly Cys Leu Arg Arg Ser Pro Asn Pro Ser Val Thr Phe Gln Arg Ser
20 25 30

Pro Ser Leu Leu Leu Ser Pro Ala Ala Cys Arg Arg Arg Cys Arg Arg
35 40 45

Gly Cys Ser Val Ser Val Asp Val Arg Cys Ser Leu Gly Ala Met Val
50 55 60

Thr Pro Glu Leu Asn Gly Gly Asp Val Gly Val Gly Val Gly Gly Gly

65					70						75					80
Ser	Phe	Asp	Phe	Gln	Arg	Tyr	Leu	Ser	Ala	Arg	Ala	Asp	Ala	Val	His	
				85					90					95		
Asp	Ala	Leu	Asp	Arg	Ala	Met	Pro	Arg	Gly	Phe	Pro	Glu	Arg	Leu	Cys	
			100					105					110			
Glu	Ser	Met	Arg	Tyr	Ser	Val	Leu	Ala	Gly	Gly	Lys	Arg	Val	Arg	Pro	
		115					120					125				
Val	Leu	Ala	Leu	Ala	Ala	Cys	Glu	Leu	Val	Gly	Gly	Asp	Ala	Ala	Ala	
	130					135						140				
Ala	Thr	Pro	Val	Ala	Cys	Ala	Val	Glu	Met	Ile	His	Thr	Met	Ser	Leu	
145					150					155					160	
Ile	His	Asp	Asp	Met	Pro	Cys	Met	Asp	Asp	Asp	Ala	Leu	Arg	Arg	Gly	
				165					170					175		
Arg	Pro	Ser	Asn	His	Val	Ala	Phe	Gly	Glu	Phe	Thr	Ala	Leu	Leu	Ala	
			180					185					190			
Gly	Asp	Ala	Leu	His	Ala	Leu	Ala	Phe	Glu	His	Val	Ala	Arg	Gly	Cys	
	195						200					205				
Gly	Asp	His	Gly	Val	Pro	Ala	Asp	Arg	Thr	Leu	Arg	Ala	Val	Ala	Glu	
	210					215					220					
Leu	Gly	Ser	Ala	Ser	Gly	Thr	Gly	Gly	Val	Ala	Ala	Gly	Gln	Val	Ala	
225					230					235					240	
Asp	Lys	Glu	Ser	Glu	Gly	Leu	Pro	Val	Ser	Leu	Ala	Met	Leu	Glu	Tyr	
				245					250					255		
Ile	His	Val	His	Lys	Thr	Ala	Arg	Leu	Leu	Glu	Ala	Ala	Ala	Val	Ser	
			260					265					270			
Gly	Ala	Ile	Val	Gly	Gly	Gly	Ala	Asp	Ala	Glu	Val	Glu	Arg	Val	Arg	
	275						280					285				
Arg	Tyr	Ala	Arg	Cys	Val	Gly	Leu	Leu	Phe	Gln	Val	Val	Asp	Asp	Val	
	290					295					300					
Leu	Asp	Met	Thr	Ser	Thr	Ser	Glu	Gln	Leu	Gly	Lys	Thr	Ala	Gly	Lys	
305					310					315					320	

Asp Val Glu Ala Asp Lys Ala Thr Tyr Pro Lys Leu Leu Gly Val Asp
325 330 335

Lys Ala Arg Glu Tyr Ala Ala Asp Leu Leu Ala Met Ala Glu Ala Glu
340 345 350

Leu Asp Gly Phe Asp Ala Glu Arg Ala Ala Pro Leu Arg His Leu Ala
355 360 365

Arg Phe Ile Ala Tyr Arg Gln His
370 375

<210> 68
<211> 292
<212> PRT
<213> Chlamydia muridarum

<400> 68

Met Asp Asp Phe Asn Val Tyr Arg Ser Lys Ile Glu Lys Arg Leu Arg
1 5 10 15

Asp Ser Leu Glu Asp Phe Gly Lys Thr Gln Ser Gly Leu Arg Asn Pro
20 25 30

Ile Glu Tyr Ala Leu Leu Gly Gly Gly Lys Arg Val Arg Pro Leu Leu
35 40 45

Val Cys Leu Phe Ala Asp Ser Ile Gln Lys Arg Arg Asp Val Leu Asp
50 55 60

Thr Ala Ile Ala Val Glu Tyr Ile His Thr Ser Thr Leu Ile Ala Asp
65 70 75 80

Asp Leu Pro Cys Met Asp Asn Asp Asp Met Arg Arg Gly Lys Pro Ser
85 90 95

Val His Lys Ala Phe Asp Glu Ala Ser Ala Leu Leu Ala Ser Tyr Ala
100 105 110

Leu Ile Pro Ala Ala Tyr Ala Arg Ile Arg Lys Asn Ala Lys Ala Leu
115 120 125

Lys Glu Val Val Ser Val Gln Arg Glu Ile Glu Asp Ala Tyr Glu Asp
130 135 140

Val Leu Asp Leu Ile Glu Leu Arg Phe Gly Val Glu Gly Val Leu Gly
145 150 155 160

Gly Gln Tyr Glu Asp Val Phe Phe Gln Ser Phe Thr Glu Glu Ser Val
165 170 175

Ile Asn Ile Ile Asn Lys Lys Thr Ser Ala Leu Phe Glu Ile Ala Cys
180 185 190

Val Ser Gly Trp Leu Phe Gly Gly Gly Ala Arg Glu Lys Thr Pro Leu
195 200 205

Val Ile Glu Phe Ala Arg Asn Phe Gly Ile Leu Phe Gln Ile Gly Asp
210 215 220

Asp Leu Ala Asp Leu Ser Gln Asp Asn Gln Glu Glu Lys His Met Asn
225 230 235 240

Tyr Ala Leu Leu Phe Gly Glu Gln Ala Ala Lys Asp Leu Leu Asn Arg
245 250 255

Ser Phe Asn Ser Cys Ile Glu Ile Leu His Leu Leu Lys Glu Lys Gly
260 265 270

Val Lys Pro Leu Glu Glu Leu Cys Lys Lys Val Phe Met Gly Gly Asn
275 280 285

Lys His Ser Leu
290

<210> 69

<211> 392

<212> PRT

<213> Streptomyces coelicolor

<400> 69

Met Arg Thr Thr Glu Ser Glu Lys Gly Leu Arg Met Pro Gly Leu Pro
1 5 10 15

Pro Met Val Ala Pro Pro Ala Glu Gln Val Asp Asp Pro Val Thr Ala
20 25 30

Thr Asp Ala Ala Asn Ala Val Asp Ala Val Leu Arg Gly Val Leu Asp
35 40 45

Glu Arg Leu Arg His Cys Arg Ala Val Asp Pro Leu Phe Ala Arg Glu
50 55 60

Leu Ala Asp Arg Leu Ala Ala Leu Thr Ala Arg Gly Gly Lys Arg Leu
65 70 75 80

Arg Thr Ala Phe Ala His Cys Gly Trp Arg Ala Ala Gly Gly Ser Gly
85 90 95

Asp Ala Thr Ala Val Leu Arg Thr Gly Ala Ala Leu Glu Leu Leu Gln
100 105 110

Ala Cys Ala Leu Val His Asp Asp Val Met Asp Gly Ser Val Gln Arg
115 120 125

Arg Gly Ala Pro Ala Leu His Val Asp Leu Ala Arg Gly His Trp Ala
130 135 140

Ala Gly Met His Gly Ser Ser Glu Ser Phe Gly Thr Ser Ala Ala Val
145 150 155 160

Leu Thr Gly Asp Leu Ala Leu Ala Trp Ala Asp Asp Leu Leu Thr Glu
165 170 175

Thr Ala Leu Gly Thr Pro His Gly Pro Arg Leu His Gly Glu Trp Arg
180 185 190

Ala Met Arg Thr Glu Met Val Ala Gly Gln Tyr Arg Asp Leu His Ala
195 200 205

Gln Ala Ala Arg Ser Ser Gly Val Asp Glu Ala Leu Ala Ile Ala Thr
210 215 220

Leu Lys Ser Ala Leu Tyr Thr Val Ala Arg Pro Leu Ala Leu Gly Ala
225 230 235 240

Val Leu Ala Gly Ala Ala Asp Gly Asp Ala Leu Glu Ala Leu Arg Ala
245 250 255

Ala Gly Arg Cys Ala Gly Leu Ala Phe Gln Leu Arg Asp Asp Leu Leu
260 265 270

Gly Ala Phe Gly Asp Pro Ala Leu Thr Gly Lys Pro Ala Asp Asp Asp
275 280 285

Leu Arg Ser Arg Lys Leu Thr Tyr Leu Leu Ala Val Ala Val Arg Leu
290 295 300

Ala Asp Ala Ala Asp Asp His Leu Ala Ala Ala Ala Leu Ala Pro Asp
 305 310 315 320

Ala Asp Pro Lys Ser Glu Lys Ala Val Arg Gln Val Arg Ser Ala Leu
 325 330 335

Val Arg Thr Gly Ala Arg Asp Leu Val Glu Thr Lys Ile Gly Glu Leu
 340 345 350

Thr Asp Met Ser Leu Ala His Phe Asp Arg Cys Gly Ala Arg Pro Ala
 355 360 365

Val Arg His Glu Phe Ala Ala Leu Ile Gly Arg Ala Thr Gly Ala Val
 370 375 380

Pro Arg Gly Thr Gly Glu Val Val
 385 390

<210> 70
 <211> 323
 <212> PRT
 <213> Synechocystis sp

<400> 70

Met Ile Ser Thr Thr Ser Leu Phe Ala Pro Val Asp Gln Asp Leu Arg
 1 5 10 15

Leu Leu Thr Asp Asn Leu Lys Arg Leu Val Gly Ala Arg His Pro Ile
 20 25 30

Leu Gly Ala Ala Ala Glu His Leu Phe Glu Ala Gly Gly Lys Arg Val
 35 40 45

Arg Pro Ala Ile Val Leu Leu Val Ser Arg Ala Thr Leu Leu Asp Gln
 50 55 60

Glu Leu Thr Ala Arg His Arg Arg Leu Ala Glu Ile Thr Glu Met Ile
 65 70 75 80

His Thr Ala Ser Leu Val His Asp Asp Val Val Asp Glu Ala Asp Leu
 85 90 95

Arg Arg Asn Val Pro Thr Val Asn Ser Leu Phe Asp Asn Arg Val Ala
 100 105 110

Val Leu Ala Gly Asp Phe Leu Phe Ala Gln Ser Ser Trp Tyr Leu Ala

115	120	125
Asn Leu Asp Asn Leu Glu Val Val Lys Leu Leu Ser Glu Val Ile Arg 130 135 140		
Asp Phe Ala Glu Gly Glu Ile Leu Gln Ser Ile Asn Arg Phe Asp Thr 145 150 155 160		
Asp Thr Asp Leu Glu Thr Tyr Leu Glu Lys Ser Tyr Phe Lys Thr Ala 165 170 175		
Ser Leu Ile Ala Asn Ser Ala Lys Ala Ala Gly Val Leu Ser Asp Ala 180 185 190		
Pro Arg Asp Val Cys Asp His Leu Tyr Glu Tyr Gly Lys His Leu Gly 195 200 205		
Leu Ala Phe Gln Ile Val Asp Asp Ile Leu Asp Phe Thr Ser Pro Thr 210 215 220		
Glu Val Leu Gly Lys Pro Ala Gly Ser Asp Leu Ile Ser Gly Asn Ile 225 230 235 240		
Thr Ala Pro Ala Leu Phe Ala Met Glu Lys Tyr Pro Leu Leu Gly Lys 245 250 255		
Leu Ile Glu Arg Glu Phe Ala Gln Ala Gly Asp Leu Glu Gln Ala Leu 260 265 270		
Glu Leu Val Glu Gln Gly Asp Gly Ile Arg Arg Ser Arg Glu Leu Ala 275 280 285		
Ala Asn Gln Ala Gln Leu Ala Arg Gln His Leu Ser Val Leu Glu Met 290 295 300		
Ser Ala Pro Arg Glu Ser Leu Leu Glu Leu Val Asp Tyr Val Leu Gly 305 310 315 320		

Arg Leu His

<210> 71
 <211> 289
 <212> PRT
 <213> Chlamydophila pneumoniae

<400> 71

Met Leu His Ala Leu Asp Thr Tyr Arg Pro Ser Ile Glu Ser Ala Ile
 1 5 10 15

Glu Lys Ala Leu Glu Gly Phe Gly Pro Ile Gly His Pro Ile Arg Ser
 20 25 30

Pro Val Glu Tyr Ala Leu Gln Gly Gly Lys Arg Leu Arg Pro Gly
 35 40 45

Leu Val Cys Met Met Ala Gln Gly Leu Gly Leu Asn His Asp Val Met
 50 55 60

Asp Ser Ala Leu Ala Val Glu Phe Val His Thr Ser Thr Leu Ile Ala
 65 70 75 80

Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Glu Arg Arg Gly Arg Pro
 85 90 95

Thr Val His Lys Ala Phe Asp Glu Ala Thr Ala Leu Leu Ala Ser Tyr
 100 105 110

Ala Leu Ile Pro Ala Ala Tyr Ser His Leu Arg Leu Asn Ala Lys Lys
 115 120 125

Leu Lys Glu Gln Gly Cys Asp Pro Arg Glu Ile Asp Ile Ala Tyr Asn
 130 135 140

Ile Ile Gly Asp Ile Thr Asp Lys Asn Ile Gly Cys Ser Gly Val Leu
 145 150 155 160

Gly Gly Gln Tyr Asp Asp Met Phe Phe Ser Asn Arg Gly Gln Glu His
 165 170 175

Val Gln Ser Ile Met Ile Lys Lys Thr Gly Ser Leu Phe Glu Ile Ala
 180 185 190

Cys Ile Ser Gly Trp Leu Phe Gly Gly Gly Asp Pro Gln Phe Ala Pro
 195 200 205

Ile Ile Thr Ser Phe Ser Asn Asn Phe Gly Leu Leu Phe Gln Ile Lys
 210 215 220

Asp Asp Phe Ser Asp Leu Gln Lys Asp Ser Gln Gln Ile Gly Leu Asn
 225 230 235 240

Tyr Ala Leu Leu Phe Gly Glu Lys Ala Ala Leu Glu Leu Leu Ala Arg
245 250 255

Ser Gln Asn Asn Cys Leu Glu Leu Leu Asp Arg Leu Ser Ala Gly Gly
260 265 270

Leu Lys Asn Ser Ser Glu Phe Glu Thr Ile Ile Ser Ser Leu Gly Ser
275 280 285

Phe

<210> 72
<211> 376
<212> PRT
<213> Arabidopsis thaliana

<400> 72

Met Glu Pro Gln Ile Leu Phe Leu Tyr Leu Ser Leu Phe Ile Leu Ser
1 5 10 15

Leu Asn Phe Phe Phe Thr Asn Leu Lys Pro Arg Leu Val Arg Leu Phe
20 25 30

Gln Pro Ser Leu Glu Ser Arg Val Lys Thr Ala Leu Leu Ser Arg Lys
35 40 45

Glu Val Ala Ala Phe Leu Asp Ser Pro Ile Val Glu Asp Glu Glu Gly
50 55 60

Glu Glu Arg Glu Glu Glu Glu Glu Gly Gly Ile Val Ser Asn Ala Asn
65 70 75 80

Phe Thr Phe Glu Phe Asp Pro Tyr Met Met Ser Lys Ala Glu Ser Val
85 90 95

Asn Lys Ala Leu Glu Glu Ala Ile Pro Val Gly Glu Pro Leu Lys Ile
100 105 110

His Glu Ala Met Arg Tyr Ala Ile Leu Ala Ala Gly Lys Arg Val Arg
115 120 125

Pro Ile Leu Cys Leu Ala Ser Cys Glu Leu Val Gly Gly Gln Glu Asn
130 135 140

Ala Ala Met Pro Ala Ala Cys Ala Val Glu Met Ile His Thr Met Ser
145 150 155 160

Leu Ile Lys Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Leu Arg Arg
165 170 175

Gly Lys Pro Thr Thr His Lys Val Tyr Gly Glu Gly Val Ala Ile Leu
180 185 190

Ser Gly Gly Ala Leu Leu Ser Leu Ala Phe Glu His Met Thr Thr Ala
195 200 205

Glu Ile Ser Ser Glu Arg Met Val Trp Ala Val Arg Glu Leu Ala Arg
210 215 220

Ser Ile Gly Thr Arg Gly Leu Val Ala Gly Gln Ala Met Asp Ile Ser
225 230 235 240

Ser Glu Gly Leu Asp Leu Asn Glu Val Gly Leu Glu His Leu Glu Phe
245 250 255

Ile His Val His Lys Thr Ala Val Leu Leu Glu Thr Ala Ala Val Leu
260 265 270

Gly Ala Ile Ile Gly Gly Gly Ser Asp Glu Glu Ile Glu Ser Val Arg
275 280 285

Lys Phe Ala Arg Cys Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile
290 295 300

Leu Asp Glu Thr Lys Ser Ser Glu Glu Leu Gly Lys Thr Ala Gly Lys
305 310 315 320

Asp Gln Leu Ala Gly Lys Leu Thr Tyr Pro Lys Leu Ile Gly Leu Glu
325 330 335

Lys Ser Lys Glu Phe Val Lys Arg Leu Thr Lys Asp Ala Arg Gln His
340 345 350

Leu Gln Gly Phe Ser Ser Glu Lys Val Ala Pro Leu Val Ala Leu Thr
355 360 365

Thr Phe Ile Ala Asn Arg Asn Lys
370 375

<210> 73
<211> 302
<212> PRT

<213> Synechocystis sp

<400> 73

Met Val Ala Gln Gln Thr Arg Thr Asp Phe Asp Leu Ala Gln Tyr Leu
1 5 10 15

Gln Val Lys Lys Gly Val Val Glu Ala Ala Leu Asp Ser Ser Leu Ala
20 25 30

Ile Ala Arg Pro Glu Lys Ile Tyr Glu Ala Met Arg Tyr Ser Leu Leu
35 40 45

Ala Gly Gly Lys Arg Leu Arg Pro Ile Leu Cys Ile Thr Ala Cys Glu
50 55 60

Leu Cys Gly Gly Asp Glu Ala Leu Ala Leu Pro Thr Ala Cys Ala Leu
65 70 75 80

Glu Met Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro Ser Met
85 90 95

Asp Asn Asp Asp Phe Arg Arg Gly Lys Pro Thr Asn His Lys Val Tyr
100 105 110

Gly Glu Asp Ile Ala Ile Leu Ala Gly Asp Gly Leu Leu Ala Tyr Ala
115 120 125

Phe Glu Tyr Val Val Thr His Thr Pro Gln Ala Asp Pro Gln Ala Leu
130 135 140

Leu Gln Val Ile Ala Arg Leu Gly Arg Thr Val Gly Ala Ala Gly Leu
145 150 155 160

Val Gly Gly Gln Val Leu Asp Leu Glu Ser Glu Gly Arg Thr Asp Ile
165 170 175

Thr Pro Glu Thr Leu Thr Phe Ile His Thr His Lys Thr Gly Ala Leu
180 185 190

Leu Glu Ala Ser Val Leu Thr Gly Ala Ile Leu Ala Gly Ala Thr Gly
195 200 205

Glu Gln Gln Gln Arg Leu Ala Arg Tyr Ala Gln Asn Ile Gly Leu Ala
210 215 220

Phe Gln Val Val Asp Asp Ile Leu Asp Ile Thr Ala Thr Gln Glu Glu

225		230		235		240
Leu Gly Lys Thr	Ala Gly Lys Asp Val	Lys Ala Gln Lys	Ala Thr Tyr			
	245	250	255			
Pro Ser Leu	Leu Gly Leu Glu Ala	Ser Arg Ala Gln	Ala Gln Ser Leu			
	260	265	270			
Ile Asp Gln Ala	Ile Val Ala Leu Glu	Pro Phe Gly	Pro Ser Ala Glu			
	275	280	285			
Pro Leu Gln Ala	Ile Ala Glu Tyr	Ile Val Ala Arg	Lys Tyr			
	290	295	300			
<210> 74						
<211> 378						
<212> PRT						
<213> Arabidopsis thaliana						
<400> 74						
Met Lys Asn Gly	Thr Thr Ile Leu Phe	Leu Tyr Leu Ser	Leu Phe Ile			
1	5	10	15			
Leu Ser Leu Asn	Phe Phe Phe Thr	Asn Leu Lys Pro	Arg Leu Val Arg			
	20	25	30			
Leu Phe Gln Pro	Ser Leu Glu Ser	Arg Val Lys Thr	Ala Leu Leu Ser			
	35	40	45			
Arg Lys Glu Val	Ala Ala Phe Leu	Asp Ser Pro Ile	Val Glu Asp Glu			
	50	55	60			
Glu Gly Glu Glu	Arg Glu Glu Glu	Glu Gly Gly Ile	Val Ser Asn			
65	70	75	80			
.						
Ala Asn Phe Thr	Phe Glu Phe Asp	Pro Tyr Met Met	Ser Lys Ala Glu			
	85	90	95			
Ser Val Asn Lys	Ala Leu Glu Glu	Ala Ile Pro Val	Gly Glu Pro Leu			
	100	105	110			
Lys Ile His Glu	Ala Met Arg Tyr	Ala Ile Leu Ala	Ala Gly Lys Arg			
	115	120	125			
Val Arg Pro Ile	Leu Cys Leu Ala	Ser Cys Glu Leu	Val Gly Gly Gln			
	130	135	140			

Glu Asn Ala Thr Ile Pro Ala Ala Cys Ala Val Glu Met Ile His Thr
 145 150 155 160

Met Ser Leu Ile Lys Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Leu
 165 170 175

Arg Arg Gly Lys Pro Thr Thr Asp Lys Val Tyr Gly Glu Gly Val Ala
 180 185 190

Ile Leu Ser Gly Gly Ala Leu Leu Ser Leu Ala Phe Glu His Met Thr
 195 200 205

Thr Ala Glu Ile Ser Ser Glu Arg Met Val Trp Ala Val Arg Glu Leu
 210 215 220

Ala Arg Ser Ile Gly Thr Arg Gly Leu Val Ala Gly Gln Ala Met Asp
 225 230 235 240

Ile Ser Ser Glu Gly Leu Asp Leu Asn Glu Val Gly Leu Glu His Leu
 245 250 255

Glu Phe Ile His Val His Lys Thr Ala Val Leu Leu Glu Thr Ala Ala
 260 265 270

Val Leu Gly Ala Ile Ile Gly Gly Gly Ser Asp Glu Glu Ile Glu Ser
 275 280 285

Val Arg Lys Phe Ala Arg Cys Ile Gly Leu Leu Phe Gln Val Val Asp
 290 295 300

Asp Ile Leu Asp Glu Thr Lys Ser Ser Glu Glu Leu Gly Lys Thr Ala
 305 310 315 320

Gly Lys Asp Gln Leu Ala Gly Lys Leu Thr Tyr Pro Lys Leu Ile Gly
 325 330 335

Leu Glu Lys Ser Lys Glu Phe Val Lys Arg Leu Thr Lys Asp Ala Arg
 340 345 350

Gln His Leu Gln Gly Phe Ser Ser Glu Lys Val Ala Pro Leu Val Ala
 355 360 365

Leu Thr Thr Phe Ile Ala Asn Arg Asn Lys
 370 375

<210> 75
 <211> 222
 <212> PRT
 <213> Arabidopsis thaliana

<400> 75

Thr Ser Ser Leu Ile His Asp Asp Leu Pro Cys Met Asp Asn Ala Asp
 1 5 10 15

Leu Arg Arg Gly Lys Pro Thr Asn His Lys Val Tyr Gly Glu Asp Met
 20 25 30

Ala Val Leu Ala Gly Asp Ala Leu Leu Ala Leu Ala Phe Glu His Met
 35 40 45

Thr Val Val Ser Ser Gly Leu Val Ala Pro Glu Arg Met Ile Arg Ala
 50 55 60

Val Val Glu Leu Ala Arg Ala Ile Gly Thr Thr Gly Leu Val Ala Gly
 65 70 75 80

Gln Met Ile Asp Leu Ala Ser Glu Arg Leu Asn Pro Asp Lys Val Gly
 85 90 95

Leu Glu His Leu Glu Phe Ile His Leu His Lys Thr Ala Ala Leu Leu
 100 105 110

Glu Ala Ala Ala Val Leu Gly Val Ile Met Gly Gly Gly Thr Glu Glu
 115 120 125

Glu Ile Glu Lys Leu Arg Lys Tyr Ala Arg Cys Ile Gly Leu Leu Phe
 130 135 140

Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys Ser Thr Glu Glu Leu
 145 150 155 160

Gly Lys Thr Ala Gly Lys Asp Val Met Ala Gly Lys Leu Thr Tyr Pro
 165 170 175

Arg Leu Ile Gly Leu Glu Arg Ser Lys Glu Val Ala Glu Lys Leu Arg
 180 185 190

Arg Glu Ala Glu Glu Gln Leu Leu Gly Phe Asp Pro Ser Lys Ala Ala
 195 200 205

Pro Leu Val Ala Leu Ala Ser His Ile Ala Phe Arg His Asn
 210 215 220

<210> 76
 <211> 335
 <212> PRT
 <213> *Drosophila melanogaster*

<400> 76

Met Glu Glu Leu Asn Ile Ile Leu Gln Lys Thr Lys Asp Lys Ser Thr
 1 5 10 15

Gln Lys Glu Gln Asp Glu Ile Leu Leu Gln Pro Phe Thr Tyr Ile Gln
 20 25 30

Gln Ile Pro Gly Lys Gln Phe Arg Ser Glu Leu Ala Leu Ala Phe Asn
 35 40 45

His Trp Leu Leu Ile Pro Gly Glu Lys Leu Ala Gln Ile Gly Asn Ile
 50 55 60

Val Gln Met Leu His Asn Ser Ser Leu Leu Ile Glu Asp Asn Ser Ile
 65 70 75 80

Leu Arg Arg Gly Val Pro Val Ala His Ser Ile Tyr Gly Val Ala Ser
 85 90 95

Thr Ile Asn Ala Ala Asn Tyr Ala Leu Phe Leu Ala Leu Glu Lys Val
 100 105 110

Gln Gln Leu Asp His Pro Glu Val Arg Lys Val Tyr Thr Glu Gln Leu
 115 120 125

Leu Glu Leu His Arg Gly Gln Gly Met Glu Ile Tyr Trp Arg Asp Ser
 130 135 140

Phe Thr Cys Pro Ser Glu Ser Asp Tyr Lys Leu Met Thr Val Arg Lys
 145 150 155 160

Thr Gly Gly Leu Phe Met Leu Ala Ile Arg Leu Met Gln Leu Phe Ser
 165 170 175

Ser Asn Lys Glu Asp Tyr Ser Lys Leu Thr Ala Ile Leu Gly Leu Tyr
 180 185 190

Phe Gln Ile Arg Asp Asp Tyr Cys Asn Leu Ser Leu Lys Glu Val Ser
 195 200 205

Val Asn Lys Ser Phe Ala Glu Asp Leu Thr Glu Gly Lys Phe Gly Phe
 210 215 220

Pro Val Ile His Ala Val Arg Thr Gln Lys Gln Asp Lys Gln Val Leu
 225 230 235 240

Arg Lys Ser Ser Gln Arg Thr His Asp Ile Glu Val Lys Lys Tyr Cys
 245 250 255

Ile Thr Leu Leu Glu Lys Leu Gly Ser Phe Gln Tyr Thr Arg Lys Val
 260 265 270

Leu Glu Ser Leu Asp Ala Glu Ala Arg Ser Glu Val Ser Thr Leu Gly
 275 280 285

Ser Asn Pro Tyr Met Asp Arg Leu Leu Asn Lys Leu Leu Ser Trp Lys
 290 295 300

Thr Ser Asp Ser Ala Ser Ile Thr Gln Ser Asn Gln Ile Asn His Asn
 305 310 315 320

Asn Val Ser Arg Ser Ser Pro Asn Gln Asn Thr Phe Asn Cys Asn
 325 330 335

<210> 77

<211> 338

<212> PRT

<213> Drosophila melanogaster

<400> 77

Met Glu Glu Leu Asn Ile Ile Leu Gln Lys Thr Lys Asp Lys Ser Thr
 1 5 10 15

Gln Lys Glu Gln Asp Glu Ile Leu Leu Gln Pro Phe Thr Tyr Ile Gln
 20 25 30

Gln Ile Pro Gly Lys Gln Phe Arg Ser Glu Leu Ala Leu Ala Phe Asn
 35 40 45

His Trp Leu Leu Ile Pro Gly Glu Lys Leu Ala Gln Ile Gly Asp Ile
 50 55 60

Val Gln Met Leu His Asn Ser Ser Leu Leu Ile Asp Asp Ile Glu Asp
 65 70 75 80

Asn Ser Ile Leu Arg Arg Gly Val Pro Val Ala His Ser Ile Tyr Gly
 85 90 95

Val	Ala	Ser	Thr	Ile	Asn	Ala	Ala	Asn	Tyr	Ala	Leu	Phe	Leu	Ala	Leu	100	105	110
Glu	Lys	Val	Gln	Gln	Leu	Asp	His	Pro	Glu	Ala	Thr	Lys	Val	Tyr	Thr	115	120	125
Glu	Gln	Leu	Leu	Glu	Leu	His	Arg	Gly	Gln	Gly	Met	Glu	Ile	Tyr	Trp	130	135	140
Arg	Asp	Ser	Phe	Thr	Cys	Pro	Ser	Glu	Ser	Asp	Tyr	Lys	Leu	Met	Thr	145	150	155
Val	Arg	Lys	Thr	Gly	Gly	Leu	Phe	Met	Leu	Ala	Ile	Arg	Leu	Met	Gln	165	170	175
Leu	Phe	Ser	Ser	Asn	Lys	Glu	Asp	Tyr	Ser	Lys	Leu	Thr	Ala	Ile	Leu	180	185	190
Gly	Leu	Tyr	Phe	Gln	Ile	Arg	Asp	Asp	Tyr	Cys	Asn	Leu	Ser	Leu	Lys	195	200	205
Glu	Tyr	Thr	Glu	Asn	Lys	Ser	Phe	Ala	Glu	Asp	Leu	Thr	Glu	Gly	Lys	210	215	220
Phe	Gly	Phe	Pro	Val	Ile	His	Ala	Val	Arg	Thr	Gln	Lys	Gln	Asp	Lys	225	230	235
Gln	Val	Leu	His	Ile	Leu	Arg	Gln	Arg	Thr	His	Asp	Ile	Glu	Val	Lys	245	250	255
Lys	Tyr	Cys	Ile	Thr	Leu	Leu	Glu	Lys	Leu	Gly	Ser	Phe	Gln	Tyr	Thr	260	265	270
Arg	Lys	Val	Leu	Glu	Ser	Leu	Asp	Ala	Glu	Ala	Arg	Ser	Glu	Val	Ala	275	280	285
Arg	Leu	Gly	Ser	Asn	Pro	Tyr	Met	Asp	Arg	Leu	Leu	Asn	Lys	Leu	Leu	290	295	300
Ser	Trp	Lys	Thr	Ser	Asp	Ser	Ala	Ser	Ile	Thr	Gln	Ser	Asn	Gln	Ile	305	310	315
Asn	His	Asn	Asn	Val	Ser	Arg	Ser	Ser	Pro	Asn	Gln	Asn	Thr	Phe	Asn	325	330	335

Cys Asn

<210> 78
<211> 360
<212> PRT
<213> Arabidopsis thaliana

<400> 78

Met Ala Thr Thr Val His Leu Ser Ser Phe Ser Leu Phe Ile Gln Ser
1 5 10 15

Arg Gly Arg Arg Asp Asn Ser Ile Ser Ser Val Lys Ser Leu Lys Lys
20 25 30

Arg Thr Gly Leu Ser Pro Ser Ser Ala Leu Thr Ser Gln Gly Gly Arg
35 40 45

Asp Met Ile Pro Pro Glu Gly Lys Cys Asn Asp His Asn Ser Ala Phe
50 55 60

Asp Phe Lys Leu Tyr Met Ile Arg Lys Ala Glu Ser Val Asn Ala Ala
65 70 75 80

Leu Asp Val Ser Val Pro Leu Arg Glu Pro Leu Thr Val Gln Glu Ala
85 90 95

Val Arg Tyr Ser Leu Leu Ala Gly Gly Lys Arg Val Arg Pro Leu Leu
100 105 110

Cys Ile Ala Val Cys Glu Leu Val Gly Gly Asp Glu Ala Thr Ala Met
115 120 125

Ser Ala Ala Cys Ala Val Glu Met Ile His Thr Ser Ser Leu Ile His
130 135 140

Asp Asp Leu Pro Cys Met Asp Asn Ala Asp Leu Arg Arg Gly Lys Pro
145 150 155 160

Thr Asn His Lys Val Tyr Gly Glu Asp Met Ala Val Leu Ala Gly Asp
165 170 175

Ala Leu Leu Ala Leu Ala Phe Glu His Met Thr Val Val Ser Ser Gly
180 185 190

Leu Val Ala Pro Glu Arg Met Ile Arg Ala Val Val Glu Leu Ala Arg

195		200		205
Ala Ile Gly Thr Thr Gly Leu Val Ala Gly Gln Met Ile Asp Leu Ala				
210		215		220
Ser Glu Arg Leu Asn Pro Asp Lys Val Gly Leu Glu His Leu Glu Phe				
225		230		235
				240
Ile His Leu His Lys Thr Ala Ala Leu Leu Glu Ala Ala Ala Val Leu				
		245		250
				255
Gly Val Ile Met Gly Gly Gly Thr Glu Glu Glu Ile Glu Lys Leu Arg				
		260		265
				270
Lys Tyr Ala Arg Cys Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile				
		275		280
				285
Leu Asp Val Thr Lys Ser Thr Glu Glu Leu Gly Lys Thr Ala Gly Lys				
		290		295
				300
Asp Val Met Ala Gly Lys Leu Thr Tyr Pro Arg Leu Ile Gly Leu Glu				
305		310		315
				320
Arg Ser Lys Glu Val Ala Glu Lys Leu Arg Arg Glu Ala Glu Glu Gln				
		325		330
				335
Leu Leu Gly Phe Asp Pro Ser Lys Ala Ala Pro Leu Val Ala Leu Ala				
		340		345
				350
Ser Tyr Ile Ala Cys Arg His Asn				
		355		360

<210> 79
 <211> 360
 <212> PRT
 <213> Arabidopsis thaliana

<400> 79

Met Ala Asn Thr Val His Leu Ser Ser Ser Ser Leu Phe Ile Gln Thr				
1		5		10
				15
Arg Gly Arg Lys Tyr Asn Ser Ile Leu Ser Phe Asn Asn Leu Gln Lys				
		20		25
				30
Arg Thr Val Leu Ser Leu Ser Cys Ala Leu Thr Ser Gln Gly Gly Lys				
		35		40
				45

Asp Met Ile Pro Pro Lys Gly Lys Ser Asn Asp Arg Asn Phe Ala Phe
 50 55 60

Asp Phe Lys Ser Tyr Met Ile Arg Lys Ala Glu Ser Val Ser Met Ala
 65 70 75 80

Leu Asn Val Ser Val Pro Pro Gln Asp Pro Leu Ala Ile Gln Glu Ala
 85 90 95

Val Arg Tyr Ser Leu Leu Ala Gly Gly Lys Arg Val Arg Pro Leu Leu
 100 105 110

Cys Ile Ala Ala Cys Glu Leu Val Gly Gly Asp Glu Ala Thr Ala Met
 115 120 125

Ser Ala Ala Cys Ala Val Glu Met Ile His Thr Ser Ser Leu Ile His
 130 135 140

Asp Asp Leu Pro Cys Met Asp Asp Ala Asp Leu Arg Arg Gly Lys Pro
 145 150 155 160

Thr Asn His Lys Val Phe Gly Glu His Met Ala Val Leu Ala Gly Asp
 165 170 175

Ala Leu Leu Ala Leu Ala Phe Glu His Met Thr Val Val Ser Ser Gly
 180 185 190

Leu Val Ala Pro Glu Arg Met Ile Arg Ser Val Thr Glu Leu Ala Lys
 195 200 205

Ala Ile Gly Thr Lys Gly Leu Val Ala Gly Gln Val Ser Asp Leu Cys
 210 215 220

Ser Gln Gly Leu Asn Pro Tyr Asp Val Gly Leu Glu Arg Leu Glu Phe
 225 230 235 240

Ile His Leu His Lys Thr Ala Ala Leu Leu Glu Ala Ala Ala Val Leu
 245 250 255

Gly Ala Ile Ile Gly Gly Gly Thr Glu Glu Glu Ile Gln Lys Leu Arg
 260 265 270

Lys Tyr Gly Arg Cys Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile
 275 280 285

Ile Asp Val Thr Glu Ser Thr Glu Glu Leu Gly Lys Thr Ala Gly Lys
 290 295 300

Asp Val Met Ala Arg Lys Leu Thr Tyr Pro Arg Leu Ile Gly Leu Glu
 305 310 315 320

Arg Ser Arg Glu Val Ala Glu Lys Leu Arg Arg Glu Ala Ala Glu Gln
 325 330 335

Leu Leu Gly Phe Asp Ser Asn Lys Val Ala Pro Leu Val Ala Leu Ala
 340 345 350

Ser Tyr Ile Ala Cys Arg His Asn
 355 360

<210> 80
 <211> 292
 <212> PRT
 <213> Chlamydia muridarum

<400> 80

Met Asp Asp Phe Asn Val Tyr Arg Ser Lys Ile Glu Lys Arg Leu Arg
 1 5 10 15

Asp Ser Leu Glu Asp Phe Gly Lys Thr Gln Ser Gly Leu Arg Asn Pro
 20 25 30

Ile Glu Tyr Ala Leu Leu Gly Gly Gly Lys Arg Val Arg Pro Leu Leu
 35 40 45

Val Cys Leu Phe Ala Asp Ser Ile Gln Lys Arg Arg Asp Val Leu Asp
 50 55 60

Thr Ala Ile Ala Val Glu Tyr Ile His Thr Ser Thr Leu Ile Ala Asp
 65 70 75 80

Asp Leu Pro Cys Met Asp Asn Asp Asp Met Arg Arg Gly Lys Pro Ser
 85 90 95

Val His Lys Ala Phe Asp Glu Ala Ser Ala Leu Leu Ala Ser Tyr Ala
 100 105 110

Leu Ile Pro Ala Ala Tyr Ala Arg Ile Arg Lys Asn Ala Lys Ala Leu
 115 120 125

Lys Glu Val Val Ser Val Gln Arg Glu Ile Glu Asp Ala Tyr Glu Asp
 130 135 140

Val Leu Asp Leu Ile Glu Leu Arg Phe Gly Val Glu Gly Val Leu Gly
 145 150 155 160

Gly Gln Tyr Glu Asp Val Phe Phe Gln Ser Phe Thr Glu Glu Ser Val
 165 170 175

Ile Asn Ile Ile Asn Lys Lys Thr Ser Ala Leu Phe Glu Ile Ala Cys
 180 185 190

Val Ser Gly Trp Leu Phe Gly Gly Gly Ala Arg Glu Lys Thr Pro Leu
 195 200 205

Val Ile Glu Phe Ala Arg Asn Phe Gly Ile Leu Phe Gln Ile Gly Asp
 210 215 220

Asp Leu Ala Asp Leu Ser Gln Asp Asn Gln Glu Glu Lys His Met Asn
 225 230 235 240

Tyr Ala Leu Leu Phe Gly Glu Gln Ala Ala Lys Asp Leu Leu Asn Arg
 245 250 255

Ser Phe Asn Ser Cys Ile Glu Ile Leu His Leu Leu Lys Glu Lys Gly
 260 265 270

Val Lys Pro Leu Glu Glu Leu Cys Lys Lys Val Phe Met Gly Gly Asn
 275 280 285

Lys His Ser Leu
 290

<210> 81
 <211> 252
 <212> PRT
 <213> Arabidopsis thaliana

<400> 81

Met Ala Glu Ile Trp Leu Trp Glu Val Gly Thr Trp Lys Ala Val Gly
 1 5 10 15

Arg Leu Gln Ser His Ser Leu Thr Val Thr His Leu Glu Phe Ser Tyr
 20 25 30

Asp Asp Thr Leu Leu Leu Ser Val Ser Arg Asp Arg His Phe Ser Val
 35 40 45

Phe Ser Ile Gln Arg Thr Gly Asn Ser Ser Gly Phe Asn Phe Thr Val
 50 55 60

Leu Asn Gln Ile Phe Ser Lys His Arg Lys Met Ser Thr Phe Leu Ala
 65 70 75 80

Ser Leu Thr Arg Leu Phe Phe Cys Phe Cys Ser Asp Asn Gly Glu Val
 85 90 95

Ser His Lys Leu Met Ala Lys Val Glu Ala His Lys Arg Ile Ile Trp
 100 105 110

Ala Cys Ser Trp Asn Pro Phe Gly His Gln Phe Ala Thr Ser Ser Arg
 115 120 125

Asp Lys Thr Val Lys Ile Trp Ser Val Glu Asn Asp Ala Arg Ile Lys
 130 135 140

Gln Ile Leu Val Leu Pro Pro Phe Gly Ser Ser Val Thr Ala Val Ala
 145 150 155 160

Trp Thr Gly Leu Asp Arg Asn Glu Lys Ser Gly Cys Val Ala Val Gly
 165 170 175

Met Glu Ser Gly Leu Ile Glu Leu Trp Asn Val Lys Ile Ile Glu Thr
 180 185 190

Glu Glu Gly Thr Thr Ala Thr Ala Ala Leu Ala Leu Arg Leu Glu Pro
 195 200 205

Phe Met Cys His Val Ser Ala Val Asn Arg Leu Ala Trp Arg Pro Thr
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Glu Lys Cys Glu Ser Asn Gln Ser Leu Arg Trp Leu Thr Ser Cys Gly
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Asp Asp Asn Cys Val Arg Val Phe Asn Phe Lys Phe
 245 250

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 <212> PRT
 <213> Aquifex aeolicus

<400> 82

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Glu Ile Leu Lys Pro Glu Gly Pro Glu Glu Leu Ile Glu Ala Met Lys
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Tyr Tyr Pro Leu Gln Lys Gly Lys Arg Ile Arg Pro Leu Phe Thr Val
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Ala Val Ala Ser Ala Leu Gly Gly Asn Glu Asp Asp Ala Ile Thr Val
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Gly Ser Gly Ile Glu Leu Ile His Asn Tyr Ser Leu Ile His Asp Asp
65 70 75 80

Leu Pro Cys Met Asp Asn Asp Val Trp Arg Arg Gly Leu Pro Thr Cys
85 90 95

His Ile Lys Phe Gly Glu Ala Met Ala Leu Leu Ala Gly Asp Ala Leu
100 105 110

Leu Thr Tyr Thr Phe Glu Val Leu Ser Gln Arg Glu Asn Tyr Lys Thr
115 120 125

Leu Ser Cys Glu Glu Ile Leu Glu Ile Asn Lys Ile Ile Ala Gln Lys
130 135 140

Ala Gly Ser Asn Gly Met Val Gly Gly Gln Val Leu Asp Ile Lys Gly
145 150 155 160

Tyr Glu Asp Leu Tyr Glu Val Ser Val Lys Lys Thr Gly Ala Leu Phe
165 170 175

Glu Ala Cys Phe Met Cys Gly Ala Val Val Ala Lys Arg Arg Glu Lys
180 185 190

Leu Lys Glu Met Glu Ser Ile Gly Arg Lys Val Gly Leu Leu Phe Gln
195 200 205

Met Val Asp Asp Tyr Leu Asp Lys Asp Gly Phe Tyr Glu Lys Leu Gly
210 215 220

Glu Cys Leu Lys Glu Glu Ile Lys Lys Leu Tyr Glu Glu Leu Lys Glu
225 230 235 240

Lys Glu Ile Phe Lys Glu Ser Gln Glu Leu Arg Tyr Leu Leu Asp Leu
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Ile Tyr Lys Arg Ile Thr
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<210> 83
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<212> PRT
<213> Rhodobacter sphaeroides

<400> 83

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Ser Val Ala Thr Arg Cys Gly Asp Ser Arg Pro Ala Leu Ser Asp Ala
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Ala Ala Val Ala Leu Glu Leu Ile His Cys Ala Ser Leu Val His Asp
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Asp Leu Pro Cys Phe Asp Asp Ala Glu Ile Arg Arg Gly Lys Pro Thr
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Val His Arg Ala Tyr Ser Glu Pro Leu Ala Ile Leu Thr Gly Asp Ser
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Leu Ile Val Met Gly Phe Glu Val Leu Ala Gly Ala Ala Ala Asp Arg
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Pro Gln Arg Ala Leu Gln Leu Val Thr Ala Leu Ala Val Arg Thr Gly
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Met Pro Met Gly Ile Cys Ala Gly Gln Gly Trp Glu Ser Glu Ser Gln
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Ile Asn Leu Ser Ala Tyr His Arg Ala Lys Thr Gly Ala Leu Phe Ile
165 170 175

Ala Ala Thr Gln Met Gly Ala Ile Ala Ala Gly Tyr Glu Ala Glu Pro
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Trp Glu Glu Leu Gly Ala Arg Ile Gly Glu Ala Phe Gln Val Ala Asp

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Val Glu Gly Ala Ala Lys Gly Leu Lys Asp Ile Leu Gly Gly Ala Ile		
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275	280	285
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Ser Ser Ser Ser Ser Ile Val Ser Ser Ser Val Val Thr Lys Glu Asp		
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Asn Leu Arg Gln Ser Glu Pro Ser Ser Phe Asp Phe Met Ser Tyr Ile		
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Ile Thr Lys Ala Glu Leu Val Asn Lys Ala Leu Asp Ser Ala Val Pro		
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Leu Arg Glu Pro Leu Lys Ile His Glu Ala Met Arg Tyr Ser Leu Leu		
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Leu Val Gly Gly Glu Glu Ser Thr Ala Met Pro Ala Ala Cys Ala Val
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Glu Met Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro Cys Met
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Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro Thr Asn His Lys Val Phe
 165 170 175

Gly Glu Asp Val Ala Val Leu Ala Gly Asp Ala Leu Leu Ser Phe Ala
 180 185 190

Phe Glu His Leu Ala Ser Ala Thr Ser Ser Asp Val Val Ser Pro Val
 195 200 205

Arg Val Val Arg Ala Val Gly Glu Leu Ala Lys Ala Ile Gly Thr Glu
 210 215 220

Gly Leu Val Ala Gly Gln Val Val Asp Ile Ser Ser Glu Gly Leu Asp
 225 230 235 240

Leu Asn Asp Val Gly Leu Glu His Leu Glu Phe Ile His Leu His Lys
 245 250 255

Thr Ala Ala Leu Leu Glu Ala Ser Ala Val Leu Gly Ala Ile Val Gly
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Gly Gly Ser Asp Asp Glu Ile Glu Arg Leu Arg Lys Phe Ala Arg Cys
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Ile Gly Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys
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Ser Ser Lys Glu Leu Gly Lys Thr Ala Gly Lys Asp Leu Ile Ala Asp
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Lys Leu Thr Tyr Pro Lys Ile Met Gly Leu Glu Lys Ser Arg Glu Phe
 325 330 335

Ala Glu Lys Leu Asn Arg Glu Ala Arg Asp Gln Leu Leu Gly Phe Asp
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Ser Asp Lys Val Ala Pro Leu Leu Ala Leu Ala Asn Tyr Ile Ala Tyr
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Arg Gln Asn
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<212> PRT
<213> Capsicum annum

<400> 85

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Pro Phe Ser Pro Leu Thr Val Ser Ala Ile Ala Thr Thr Lys Glu Asp
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Glu Arg Ile Glu Ala Ala Gln Thr Glu Glu Pro Phe Asn Phe Lys Ile
65 70 75 80

Tyr Val Thr Glu Lys Ala Ile Ser Val Asn Lys Ala Leu Asp Glu Ala
85 90 95

Ile Ile Val Lys Glu Pro His Val Ile His Glu Ala Met Arg Tyr Ser
100 105 110

Leu Leu Ala Gly Gly Lys Arg Val Arg Pro Met Leu Cys Leu Ala Ala
115 120 125

Cys Glu Leu Val Gly Gly Asn Gln Glu Asn Ala Met Ala Ala Ala Cys
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Ala Val Glu Met Ile His Thr Met Ser Leu Ile His Asp Asp Leu Pro
145 150 155 160

Cys Met Asp Asn Asp Asp Leu Arg Arg Gly Lys Pro Thr Asn His Lys
165 170 175

Ile Tyr Gly Glu Asp Val Ala Val Leu Ala Gly Asp Ser Leu Leu Ala
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Phe Ala Phe Glu His Ile Val Asn Ser Thr Ala Gly Val Thr Pro Ser
195 200 205

Arg Ile Val Gly Ala Val Ala Glu Leu Ala Lys Ser Ile Gly Thr Glu
210 215 220

Gly Leu Val Ala Gly Gln Val Ala Asp Ile Lys Cys Thr Gly Asn Ala
225 230 235 240

Ser Val Ser Leu Glu Thr Leu Glu Phe Ile His Val His Lys Thr Ala
245 250 255

Ala Leu Leu Glu Ser Ser Val Val Leu Gly Ala Ile Leu Gly Gly Gly
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Thr Asn Val Glu Val Glu Lys Leu Arg Arg Phe Ala Arg Cys Ile Gly
275 280 285

Leu Leu Phe Gln Val Val Asp Asp Ile Leu Asp Val Thr Lys Ser Ser
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Glu Glu Leu Gly Lys Thr Ala Gly Lys Asp Leu Val Val Asp Lys Thr
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Thr Tyr Pro Lys Leu Leu Gly Leu Glu Lys Ala Lys Glu Phe Ala Ala
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<212> DNA

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<213> Human

<400> 91

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<211> 862

<212> DNA

<213> Human

<220>

<221> misc_feature

<222> (1)..(862)

<223> n equals unknown

<400> 92

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<211> 954
<212> DNA
<213> Human

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<212> DNA
<213> Human

<220>
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<400> 94

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<211> 2880

<212> DNA

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 <213> Mus musculus

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 <222> (1)..(388)
 <223> n equals unknown

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<210> 129
 <211> 1305
 <212> DNA
 <213> Schistosoma mansoni

<400> 129
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 <212> DNA
 <213> Schistosoma mansoni

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 <213> Solanum tuberosum

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 <213> Solanum tuberosum

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 <213> Candida utilis

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 <213> Mus musculus

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<210> 135
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 <213> Gossypium hirsutum

<400> 135	
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 <213> Mus musculus

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 <213> *Schistosoma mansoni*

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<210> 139
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 <212> DNA
 <213> *Solanum tuberosum*

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 <212> DNA
 <213> Solanum tuberosum

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 <213> Mus musculus

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 <213> Mus musculus

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<210> 143
 <211> 3162
 <212> DNA
 <213> Schizosaccharomyces pombe

<400> 143
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 <212> DNA
 <213> *Blatella germanica*

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<210> 145

<211> 831

<212> DNA

<213> Sphaceloma manihoticola

<400> 145

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<210> 146
 <211> 2125
 <212> DNA
 <213> *Raphanus sativus*

<400> 146	
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<210> 147
 <211> 4725
 <212> DNA
 <213> *Gibberella fujikuroi*

<400> 147	
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<210> 148
 <211> 1393
 <212> DNA
 <213> Artificial sequence

<220>
 <223> CDS

<220>
 <221> misc_feature
 <222> (1)..(1393)
 <223> CDS

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acaattcgcc ggccattacg gtccacacac caattcgtgc aagttgccgg gcattttcgc	180
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tcactaactg gatgatctcg gcgtcactaa ggaactttgc acctttctct gcattaccaa 1320
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gggtaaccag aac 1393

<210> 149
<211> 354
<212> DNA
<213> Artificial sequence

<220>
<223> CDS

<220>
<221> misc_feature
<222> (1)..(354)
<223> CDS

<400> 149
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gaacggttgt gaatcatatg agatttgaca agatgtccgg ccgccaaggc agccataaga 120
gacaattcgc cggccattac ggtcccacac acaattcgtg caagttgccg ggcattttcg 180
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agaaggttgg tgccaccacc cacggtacca atctcgatag atggcatggg gcagctgata 300
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<210> 150
<211> 309
<212> DNA
<213> Artificial sequence

<220>
<223> CDS

<220>
<221> misc_feature
<222> (1)..(309)
<223> CDS

<400> 150
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ctgtaattcc aagcaagggt gttagagaag ttttaaagac taccacagag gctatgattg 180
aggttaatat taacaagaat ttagtgggct ctgcaatggc tggtagcatc ggaggctaca 240
acgctcatgc tgcaaacatt gtcaccgcta tctacattgc ttgtggccag gacgcagctc 300

agaatgttg

309

<210> 151
<211> 360
<212> DNA
<213> Artificial sequence

<220>
<223> CDS

<220>
<221> misc_feature
<222> (1)..(360)
<223> CDS

<400> 151
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aggcgcgcaa atctgctagt gctgtcaa at gcctccttga tcaactgcgaa cccttcggat 180
gtttcgagcc atgctttcac ttctgcagag tcacaagccc ttggaagacg cacaactggg 240
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<210> 152
<211> 371
<212> DNA
<213> Artificial sequence

<220>
<223> CDS

<220>
<221> misc_feature
<222> (1)..(371)
<223> CDS

<400> 152
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tactggagag agctcggttc agaaagtttc ttcgaaagta actgtcggcg aatcgatata 180
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gtaaccagaa c 371

<210> 153
 <211> 1159
 <212> DNA
 <213> *Rattus norvegicus*

<220>
 <221> misc_feature
 <222> (1)..(1159)
 <223> n equals unknown

<400> 153
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 aagaaggcag cttgagcatc ctgacatact tgaactgaaa cacgggcatt gggttctcaa 780
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 atttattcag tctgggcgg 1159

<210> 154
 <211> 2195
 <212> DNA
 <213> *Arabidopsis thaliana*

<400> 154
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cgggtggcgtg	acaagatccg	ttacaatacg	cctcttcacg	tcgtcactat	cacagaactc	360
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<210> 155
 <211> 1394
 <212> DNA
 <213> Artificial sequence

<220>
 <223> CDS

<220>
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 <222> (1)..(1394)
 <223> CDS

<400> 155	
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gatcatccag ttagtgaatg ctaaaccatat ccagcttac aagctcgaga ctctgatgga	180
aactcatgag cgtgggtgtat cgattcgccg acagttactt tcgaagaaac tttctgaacc	240
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gacagcataa tagt 1394

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<210> 156
<211> 354
<212> DNA
<213> Artificial sequence

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<220>
<223> CDS

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<220>
<221> misc_feature
<222> (1)..(354)
<223> CDS

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cacagcaggc ctgtctgcaa atgttggggtg ttcaaggagc atgcaaagat aatcctggcg 180
aaaatgcccg gcaacttgca cgaattgtgt gtgggaccgt aatggccggc gaattgtctc 240
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<210> 157
<211> 309
<212> DNA
<213> Artificial sequence

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<220>
<223> CDS

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<220>
<221> misc_feature
<222> (1)..(309)
<223> CDS

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ctgtaattcc aagcaagggt gttagagaag ttttaaagac taccacagag gctatgattg	180
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acgctcatgc tgcaaacatt gtcaccgcta tctacattgc ttgtggccag gacgcagctc	300
agaatgttg	309

<210> 158
 <211> 1227
 <212> DNA
 <213> Human

<400> 158	
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gatggtgcgg tgctgttct tggccctgca gagagctgtg ggcggttgtt aaggcgaccg	180
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gtgggacttc gcacaatgac tcaaaagatt cttctccctc tttttttttt tttttttttg	1140
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caaatataga acagttaatt tctgcag	1227

<210> 159
 <211> 1757

<212> DNA
<213> Human

<400> 159

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tgagacagcc acttggtttt tggctctttc agagaggtct caggttcttt ccatgcagac	180
tcctcagatc tgaacacagt ttagtgcttt acatgctgtg ctctttgaag agatttcaac	240
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tataagctgg gaaaaaagtt ttgatgaaat tcttgaagtt catggtgatc agtgcaattg	360
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attactaaat tgtatacatt ttgttataga atactttttt ctagtttcag taaataatga	1740

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1757

<210> 160

<211> 1045

<212> DNA

<213> Mus musculus

<400> 160

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<210> 161

<211> 2664

<212> DNA

<213> Mesocricetus auratus

<400> 161

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<210> 162

<211> 3450

<212> DNA

<213> *Saccharomyces cerevisiae*

<400> 162

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<212> DNA

<213> *Arabidopsis thaliana*

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<212> DNA

<213> *Stongylocentrotus purpuratus*

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 <213> *Stongylocentrotus purpuratus*

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<210> 167

<211> 1287

<212> DNA

<213> PSEUDOMONAS mevalonii

<400> 167

atgagcctcg attccgcct gcccgctttc cgtaacctgt ccctgccgc gcgcctggac	60
cacatcggcc agttgctcgg cctgagccac gacgatgtca gcctgctggc caacgccggt	120
gcctgccga tggacatcgc caacggcatg atcgaaaacg tcatcggcac cttcgagctg	180
ccctatgccg tggccagcaa cttccagatc aatggccgtg atgtgctggt gccgctggtg	240
gtggaagagc cctcgatcgt cgccgctgct tcgtacatgg ccaagctggc ccgtgccaac	300
ggcggcttca ccacctcag cagcgccccg ctgatgcatg ccaggtaca gatcgtcggc	360
atacaggacc cgctcaatgc acgcctgagc ctgctgcgcc gcaaagacga aatcattgaa	420

ctggccaacc gcaaggacca gttgctcaac agcctcggcg gcggctgccg cgacatcgaa 480
 gtgcacacct tcgccgatac cccgcgtggc ccgatgctgg tggcgcacct gatcgctgat 540
 gtacgcgatg ccatggggcg caacaccgtc aataccatgg ccgaggccgt tgcgccgtg 600
 atggaagcca tcaccggggg ccagggtacgc ctgcgcattc tgtccaacct ggccgacctg 660
 cgcctggcca gggcccaggt gcggattact ccgcagcaac tggaaacggc cgaattcagt 720
 ggcgaggcag tgatcgaagg catcctcgac gcctacgcct tcgctgcggt cgacccttac 780
 cgcgcggcca cccacaacaa gggcatcatg aatggcatcg acccactgat cgtcgccact 840
 ggcaacgact ggcgtgcagt ggaagccggc gcccatgctg atgcctgccg cagtggtcac 900
 tacggctcgc tgaccacctg ggaaaaggac aacaacggcc atttggtcgg caccctggaa 960
 atgccgatgc ccgtaggcct ggtcggcggc gccacaaaaa cccatccgct ggcgcaactg 1020
 tcgctgcgca tcctcggcgt gaaaacagcc caggcgctcg ctgagattgc cgtggccgta 1080
 ggctggcgcc aaacactcgg ggccatgcgc gccctggcca ccgaaggcat ccagcgcggc 1140
 cacatggccc tgcatgcgcg caatattgcc gtggtggcgg gcgcccaggc cgatgaggtg 1200
 gactgggttg cccggcagtt ggtggaatac cacgacgtgc gcgccgaccg cgccgtagca 1260
 ctgctgaaac aaaagcgcg ccaatga 1287

<210> 168

<211> 1054

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 168

Met Pro Pro Leu Phe Lys Gly Leu Lys Gln Met Ala Lys Pro Ile Ala
1 5 10 15

Tyr Val Ser Arg Phe Ser Ala Lys Arg Pro Ile His Ile Ile Leu Phe
20 25 30

Ser Leu Ile Ile Ser Ala Phe Ala Tyr Leu Ser Val Ile Gln Tyr Tyr
35 40 45

Phe Asn Gly Trp Gln Leu Asp Ser Asn Ser Val Phe Glu Thr Ala Pro
50 55 60

Asn Lys Asp Ser Asn Thr Leu Phe Gln Glu Cys Ser His Tyr Tyr Arg
65 70 75 80

Asp Ser Ser Leu Asp Gly Trp Val Ser Ile Thr Ala His Glu Ala Ser
85 90 95

Glu Leu Pro Ala Pro His His Tyr Tyr Leu Leu Asn Leu Asn Phe Asn
 100 105 110

Ser Pro Asn Glu Thr Asp Ser Ile Pro Glu Leu Ala Asn Thr Val Phe
 115 120 125

Glu Lys Asp Asn Thr Lys Tyr Ile Leu Gln Glu Asp Leu Ser Val Ser
 130 135 140

Lys Glu Ile Ser Ser Thr Asp Gly Thr Lys Trp Arg Leu Arg Ser Asp
 145 150 155 160

Arg Lys Ser Leu Phe Asp Val Lys Thr Leu Ala Tyr Ser Leu Tyr Asp
 165 170 175

Val Phe Ser Glu Asn Val Thr Gln Ala Asp Pro Phe Asp Val Leu Ile
 180 185 190

Met Val Thr Ala Tyr Leu Met Met Phe Tyr Thr Ile Phe Gly Leu Phe
 195 200 205

Asn Asp Met Arg Lys Thr Gly Ser Asn Phe Trp Leu Ser Ala Ser Thr
 210 215 220

Val Val Asn Ser Ala Ser Ser Leu Phe Leu Ala Leu Tyr Val Thr Gln
 225 230 235 240

Cys Ile Leu Gly Lys Glu Val Ser Ala Leu Thr Leu Phe Glu Gly Leu
 245 250 255

Pro Phe Ile Val Val Val Val Gly Phe Lys His Lys Ile Lys Ile Ala
 260 265 270

Gln Tyr Ala Leu Glu Lys Phe Glu Arg Val Gly Leu Ser Lys Arg Ile
 275 280 285

Thr Thr Asp Glu Ile Val Phe Glu Ser Val Ser Glu Glu Gly Gly Arg
 290 295 300

Leu Ile Gln Asp His Leu Leu Cys Ile Phe Ala Phe Ile Gly Cys Ser
 305 310 315 320

Met Tyr Ala His Gln Leu Lys Thr Leu Thr Asn Phe Cys Ile Leu Ser
 325 330 335

Ala Phe Ile Leu Ile Phe Glu Leu Ile Leu Thr Pro Thr Phe Tyr Ser
340 345 350

Ala Ile Leu Ala Leu Arg Leu Glu Met Asn Val Ile His Arg Ser Thr
355 360 365

Ile Ile Lys Gln Thr Leu Glu Glu Asp Gly Val Val Pro Ser Thr Ala
370 375 380

Arg Ile Ile Ser Lys Ala Glu Lys Lys Ser Val Ser Ser Phe Leu Asn
385 390 395 400

Leu Ser Val Val Val Ile Ile Met Lys Leu Ser Val Ile Leu Leu Phe
405 410 415

Val Phe Ile Asn Phe Tyr Asn Phe Gly Ala Asn Trp Val Asn Asp Ala
420 425 430

Phe Asn Ser Leu Tyr Phe Asp Lys Glu Arg Val Ser Leu Pro Asp Phe
435 440 445

Ile Thr Ser Asn Ala Ser Glu Asn Phe Lys Glu Gln Ala Ile Val Ser
450 455 460

Val Thr Pro Leu Leu Tyr Tyr Lys Pro Ile Lys Ser Tyr Gln Arg Ile
465 470 475 480

Glu Asp Met Val Leu Leu Leu Leu Arg Asn Val Ser Val Ala Ile Arg
485 490 495

Asp Arg Phe Val Ser Lys Leu Val Leu Ser Ala Leu Val Cys Ser Ala
500 505 510

Val Ile Asn Val Tyr Leu Leu Asn Ala Ala Arg Ile His Thr Ser Tyr
515 520 525

Thr Ala Asp Gln Leu Val Lys Thr Glu Val Thr Lys Lys Ser Phe Thr
530 535 540

Ala Pro Val Gln Lys Ala Ser Thr Pro Val Leu Thr Asn Lys Thr Val
545 550 555 560

Ile Ser Gly Ser Lys Val Lys Ser Leu Ser Ser Ala Gln Ser Ser Ser
565 570 575

Ser Gly Pro Ser Ser Ser Ser Glu Glu Asp Asp Ser Arg Asp Ile Glu

580					585					590					
Ser	Leu	Asp	Lys	Lys	Ile	Arg	Pro	Leu	Glu	Glu	Leu	Glu	Ala	Leu	Leu
		595					600					605			
Ser	Ser	Gly	Asn	Thr	Lys	Gln	Leu	Lys	Asn	Lys	Glu	Val	Ala	Ala	Leu
	610					615					620				
Val	Ile	His	Gly	Lys	Leu	Pro	Leu	Tyr	Ala	Leu	Glu	Lys	Lys	Leu	Gly
625					630					635					640
Asp	Thr	Thr	Arg	Ala	Val	Ala	Val	Arg	Arg	Lys	Ala	Leu	Ser	Ile	Leu
				645					650					655	
Ala	Glu	Ala	Pro	Val	Leu	Ala	Ser	Asp	Arg	Leu	Pro	Tyr	Lys	Asn	Tyr
			660					665						670	
Asp	Tyr	Asp	Arg	Val	Phe	Gly	Ala	Cys	Cys	Glu	Asn	Val	Ile	Gly	Tyr
		675					680					685			
Met	Pro	Leu	Pro	Val	Gly	Val	Ile	Gly	Pro	Leu	Val	Ile	Asp	Gly	Thr
	690					695					700				
Ser	Tyr	His	Ile	Pro	Met	Ala	Thr	Thr	Glu	Gly	Cys	Leu	Val	Ala	Ser
705					710					715					720
Ala	Met	Arg	Gly	Cys	Lys	Ala	Ile	Asn	Ala	Gly	Gly	Gly	Ala	Thr	Thr
				725					730					735	
Val	Leu	Thr	Lys	Asp	Gly	Met	Thr	Arg	Gly	Pro	Val	Val	Arg	Phe	Pro
			740					745					750		
Thr	Leu	Lys	Arg	Ser	Gly	Ala	Cys	Lys	Ile	Trp	Leu	Asp	Ser	Glu	Glu
		755					760					765			
Gly	Gln	Asn	Ala	Ile	Lys	Lys	Ala	Phe	Asn	Ser	Thr	Ser	Arg	Phe	Ala
	770					775					780				
Arg	Leu	Gln	His	Ile	Gln	Thr	Cys	Leu	Ala	Gly	Asp	Leu	Leu	Phe	Met
785					790					795					800
Arg	Phe	Arg	Thr	Thr	Thr	Gly	Asp	Ala	Met	Gly	Met	Asn	Met	Ile	Ser
				805					810					815	
Lys	Gly	Val	Glu	Tyr	Ser	Leu	Lys	Gln	Met	Val	Glu	Glu	Tyr	Gly	Trp
		820						825					830		

Glu Asp Met Glu Val Val Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys
835 840 845

Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val
850 855 860

Ala Glu Ala Thr Ile Pro Gly Asp Val Val Arg Lys Val Leu Lys Ser
865 870 875 880

Asp Val Ser Ala Leu Val Glu Leu Asn Ile Ala Lys Asn Leu Val Gly
885 890 895

Ser Ala Met Ala Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn
900 905 910

Leu Val Thr Ala Val Phe Leu Ala Leu Gly Gln Asp Pro Ala Gln Asn
915 920 925

Val Glu Ser Ser Asn Cys Ile Thr Leu Met Lys Glu Val Asp Gly Asp
930 935 940

Leu Arg Ile Ser Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly
945 950 955 960

Gly Gly Thr Val Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly
965 970 975

Val Arg Gly Pro His Ala Thr Ala Pro Gly Thr Asn Ala Arg Gln Leu
980 985 990

Ala Arg Ile Val Ala Cys Ala Val Leu Ala Gly Glu Leu Ser Leu Cys
995 1000 1005

Ala Ala Leu Ala Ala Gly His Leu Val Gln Ser His Met Thr His
1010 1015 1020

Asn Arg Lys Pro Ala Glu Pro Thr Lys Pro Asn Asn Leu Asp Ala
1025 1030 1035

Thr Asp Ile Asn Arg Leu Lys Asp Gly Ser Val Thr Cys Ile Lys
1040 1045 1050

Ser

<210> 169
 <211> 888
 <212> PRT
 <213> Human

<400> 169

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
 1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
 20 25 30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
 35 40 45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
 50 55 60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
 65 70 75 80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
 85 90 95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
 100 105 110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
 115 120 125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Thr Leu Ala Lys Phe Ala
 130 135 140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
 145 150 155 160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
 165 170 175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
 180 185 190

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
 195 200 205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg

210	215	220															
Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg																	
225					230					235							240
Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val																	
				245					250								255
Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg																	
			260					265								270	
Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Ala Asp Thr Ser Lys																	
			275					280					285				
Val Ser Leu Gly Leu Asp Glu Asn Val Ser Lys Arg Ile Glu Pro Ser																	
			290				295						300				
Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile																	
305					310					315							320
Glu Gln Val Ile Thr Leu Ser Leu Ala Leu Leu Leu Ala Val Lys Tyr																	
				325					330								335
Ile Phe Phe Glu Gln Thr Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn																	
			340					345							350		
Pro Ile Thr Ser Pro Val Val Thr Gln Lys Lys Val Pro Asp Asn Cys																	
			355					360						365			
Cys Arg Arg Glu Pro Met Leu Val Arg Asn Asn Gln Lys Cys Asp Ser																	
			370				375					380					
Val Glu Glu Glu Thr Gly Ile Asn Arg Glu Arg Lys Val Glu Val Ile																	
385						390				395							400
Lys Pro Leu Val Ala Glu Thr Asp Thr Pro Asn Arg Ala Thr Phe Val																	
				405					410								415
Val Gly Asn Ser Ser Leu Leu Asp Thr Ser Ser Val Leu Val Thr Gln																	
			420					425									430
Glu Pro Glu Ile Glu Leu Pro Arg Glu Pro Arg Pro Asn Glu Glu Cys																	
			435					440						445			
Leu Gln Ile Leu Gly Asn Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp																	
			450				455					460					

Ala Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys
465 470 475 480

Leu Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg
485 490 495

Gln Leu Leu Ser Lys Lys Leu Ser Glu Pro Ser Ser Leu Gln Tyr Leu
500 505 510

Pro Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu
515 520 525

Asn Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu
530 535 540

Cys Leu Asp Glu Lys Glu Phe Gln Val Pro Met Ala Thr Thr Glu Gly
545 550 555 560

Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly
565 570 575

Gly Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro
580 585 590

Val Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp
595 600 605

Leu Glu Thr Ser Glu Gly Phe Ala Val Ile Lys Glu Ala Phe Asp Ser
610 615 620

Thr Ser Arg Phe Ala Arg Leu Gln Lys Leu His Thr Ser Ile Ala Gly
625 630 635 640

Arg Asn Leu Tyr Ile Arg Phe Gln Ser Arg Ser Gly Asp Ala Met Gly
645 650 655

Met Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Ser Lys Leu His
660 665 670

Glu Tyr Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys
675 680 685

Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys
690 695 700

Ser Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val
705 710 715 720

Leu Lys Thr Thr Thr Glu Ala Met Ile Glu Val Asn Ile Asn Lys Asn
725 730 735

Leu Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His
740 745 750

Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala
755 760 765

Ala Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser
770 775 780

Gly Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile
785 790 795 800

Glu Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala
805 810 815

Cys Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly
820 825 830

Glu Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala
835 840 845

Gly Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Lys
850 855 860

Ser His Met Ile His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln
865 870 875 880

Gly Ala Cys Thr Lys Lys Thr Ala
885

<210> 170

<211> 887

<212> PRT

<213> Mesocricetus auratus

<400> 170

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met

20					25					30					
Ser	Met	Asn	Met	Phe	Thr	Gly	Asn	Asn	Lys	Ile	Cys	Gly	Trp	Asn	Tyr
		35					40					45			
Glu	Cys	Pro	Lys	Phe	Glu	Glu	Asp	Val	Leu	Ser	Ser	Asp	Ile	Ile	Ile
	50					55					60				
Leu	Thr	Ile	Thr	Arg	Cys	Ile	Ala	Ile	Leu	Tyr	Ile	Tyr	Phe	Gln	Phe
65					70					75					80
Gln	Asn	Leu	Arg	Gln	Leu	Gly	Ser	Lys	Tyr	Ile	Leu	Gly	Ile	Ala	Gly
				85					90					95	
Leu	Phe	Thr	Ile	Phe	Ser	Ser	Phe	Val	Phe	Ser	Thr	Val	Val	Ile	His
			100					105					110		
Phe	Leu	Asp	Lys	Glu	Leu	Thr	Gly	Leu	Asn	Glu	Ala	Leu	Pro	Phe	Phe
		115					120					125			
Leu	Leu	Leu	Ile	Asp	Leu	Ser	Arg	Ala	Ser	Ala	Leu	Ala	Lys	Phe	Ala
	130					135					140				
Leu	Ser	Ser	Asn	Ser	Gln	Asp	Glu	Val	Arg	Glu	Asn	Ile	Ala	Arg	Gly
145					150					155					160
Met	Ala	Ile	Leu	Gly	Pro	Thr	Phe	Thr	Leu	Asp	Ala	Leu	Val	Glu	Cys
				165					170					175	
Leu	Val	Ile	Gly	Val	Gly	Thr	Met	Ser	Gly	Val	Arg	Gln	Leu	Glu	Ile
			180					185					190		
Met	Cys	Cys	Phe	Gly	Cys	Met	Ser	Val	Leu	Ala	Asn	Tyr	Phe	Val	Phe
		195					200					205			
Met	Thr	Phe	Phe	Pro	Ala	Cys	Val	Ser	Leu	Val	Leu	Glu	Leu	Ser	Arg
	210					215					220				
Glu	Ser	Arg	Glu	Gly	Arg	Pro	Ile	Trp	Gln	Leu	Ser	His	Phe	Ala	Arg
225					230					235					240
Val	Leu	Glu	Glu	Glu	Glu	Asn	Lys	Pro	Asn	Pro	Val	Thr	Gln	Arg	Val
				245					250					255	
Lys	Met	Ile	Met	Ser	Leu	Gly	Leu	Val	Leu	Val	His	Ala	His	Ser	Arg
			260					265					270		

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Thr Glu His Ser Lys
 275 280 285

Val Ser Leu Gly Leu Asp Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
 290 295 300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
 305 310 315 320

Glu Gln Val Val Thr Leu Ser Leu Ala Phe Leu Leu Ala Val Lys Tyr
 325 330 335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
 340 345 350

Pro Ile Thr Ser Pro Val Val Thr Pro Lys Lys Ala Pro Asp Asn Cys
 355 360 365

Cys Arg Arg Glu Pro Leu Leu Val Arg Arg Ser Glu Lys Leu Ser Ser
 370 375 380

Val Glu Glu Glu Pro Gly Val Ser Gln Asp Arg Lys Val Glu Val Ile
 385 390 395 400

Lys Pro Leu Val Val Glu Thr Glu Ser Ala Ser Arg Ala Thr Phe Val
 405 410 415

Leu Gly Ala Ser Gly Thr Ser Pro Pro Val Ala Ala Arg Thr Gln Glu
 420 425 430

Leu Glu Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
 435 440 445

Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
 450 455 460

Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu
 465 470 475 480

Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg Gln
 485 490 495

Leu Leu Ser Thr Lys Leu Pro Glu Pro Ser Ser Leu Gln Tyr Leu Pro
 500 505 510

Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn
515 520 525

Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Cys
530 535 540

Leu Asp Gly Lys Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys
545 550 555 560

Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly Gly
565 570 575

Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val
580 585 590

Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp Leu
595 600 605

Glu Thr Pro Glu Gly Phe Ala Val Ile Lys Asp Ala Phe Asp Ser Thr
610 615 620

Ser Arg Phe Ala Arg Leu Gln Lys Leu His Val Thr Met Ala Gly Arg
625 630 635 640

Asn Leu Tyr Ile Arg Phe Gln Ser Lys Thr Gly Asp Ala Met Gly Met
645 650 655

Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Leu Lys Leu Gln Glu
660 665 670

Phe Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr
675 680 685

Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Thr
690 695 700

Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val Leu
705 710 715 720

Lys Thr Thr Thr Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn Leu
725 730 735

Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala
740 745 750

Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala
755 760 765

Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly
770 775 780

Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu
785 790 795 800

Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys
805 810 815

Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu
820 825 830

Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly
835 840 845

Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser
850 855 860

His Met Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly
865 870 875 880

Thr Cys Thr Lys Lys Ser Ala
885

<210> 171
<211> 424
<212> PRT
<213> Streptococcus pneumoniae

<400> 171

Met Lys Ile Ser Trp Asn Gly Phe Ser Lys Lys Ser Tyr Gln Glu Arg
1 5 10 15

Leu Glu Leu Leu Lys Ala Gln Ala Leu Leu Ser Pro Glu Arg Gln Ala
20 25 30

Ser Leu Glu Lys Asp Glu Gln Met Ser Val Thr Val Ala Asp Gln Leu
35 40 45

Ser Glu Asn Val Val Gly Thr Phe Ser Leu Pro Tyr Ser Leu Val Pro
50 55 60

Glu Val Leu Val Asn Gly Gln Gly Tyr Thr Val Pro Tyr Val Thr Glu
65 70 75 80

Glu Pro Ser Val Val Ala Ala Ala Ser Tyr Ala Ser Lys Ile Ile Lys
85 90 95

Arg Ala Gly Gly Phe Thr Ala Gln Val His Gln Arg Gln Met Ile Gly
100 105 110

Gln Val Ala Leu Tyr Gln Val Ala Asn Pro Lys Leu Ala Gln Glu Lys
115 120 125

Ile Ala Ser Lys Lys Ala Glu Leu Leu Glu Leu Ala Asn Gln Ala Tyr
130 135 140

Pro Ser Ile Val Lys Arg Gly Gly Gly Ala Arg Asp Leu His Val Glu
145 150 155 160

Gln Ile Lys Gly Glu Pro Asp Phe Leu Val Val Tyr Ile His Val Asp
165 170 175

Thr Gln Glu Ala Met Gly Ala Asn Met Leu Asn Thr Met Leu Glu Ala
180 185 190

Leu Lys Pro Val Leu Glu Glu Leu Ser Gln Gly Gln Ser Leu Met Gly
195 200 205

Ile Leu Ser Asn Tyr Ala Thr Asp Ser Leu Val Thr Ala Ser Cys Arg
210 215 220

Ile Ala Phe Arg Tyr Leu Ser Arg Gln Lys Asp Gln Gly Arg Glu Ile
225 230 235 240

Ala Glu Lys Ile Ala Leu Ala Ser Gln Phe Ala Gln Ala Asp Pro Tyr
245 250 255

Arg Ala Ala Thr His Asn Lys Gly Ile Phe Asn Gly Ile Asp Ala Ile
260 265 270

Leu Ile Ala Thr Gly Asn Asp Trp Arg Ala Ile Glu Ala Gly Ala His
275 280 285

Ala Phe Ala Ser Arg Asp Gly Arg Tyr Gln Gly Leu Ser Cys Trp Thr
290 295 300

Leu Asp Leu Glu Arg Glu Glu Leu Val Gly Glu Met Thr Leu Pro Met
305 310 315 320

Pro Val Ala Thr Lys Gly Gly Ser Ile Gly Leu Asn Pro Arg Val Ala
 325 330 335

Leu Ser His Asp Leu Leu Gly Asn Pro Ser Ala Arg Glu Leu Ala Gln
 340 345 350

Ile Ile Val Ser Ile Gly Leu Ala Gln Asn Phe Ala Ala Leu Lys Ala
 355 360 365

Leu Val Ser Thr Gly Ile Gln Gln Gly His Met Lys Leu Gln Ala Lys
 370 375 380

Ser Leu Ala Leu Leu Ala Gly Ala Ser Glu Ser Glu Val Ala Pro Leu
 385 390 395 400

Val Glu Arg Leu Ile Ser Asp Lys Thr Phe Asn Leu Glu Thr Ala Gln
 405 410 415

Arg Tyr Leu Glu Asn Leu Arg Ser
 420

<210> 172

<211> 425

<212> PRT

<213> Streptococcus pyogenes

<400> 172

Met Thr Lys Thr Asn Leu Asn Trp Ser Gly Phe Ser Lys Lys Thr Phe
 1 5 10 15

Glu Glu Arg Leu Gln Leu Ile Glu Lys Phe Lys Leu Leu Asn Ala Glu
 20 25 30

Asn Leu Asn Gln Leu Lys Thr Asp Val Leu Leu Pro Ile Gln Thr Ala
 35 40 45

Asn Gln Met Thr Glu Asn Val Leu Gly Arg Leu Ala Leu Pro Phe Ser
 50 55 60

Ile Ala Pro Asp Phe Leu Val Asn Gly Ser Thr Tyr Gln Met Pro Phe
 65 70 75 80

Val Thr Glu Glu Pro Ser Val Val Ala Ala Ala Ser Phe Ala Ala Lys
 85 90 95

Leu Ile Lys Arg Ser Gly Gly Phe Lys Ala Gln Thr Leu Asn Arg Gln

100					105					110					
Met	Ile	Gly	Gln	Ile	Val	Leu	Tyr	Asp	Ile	Asp	Gln	Ile	Asp	Asn	Ala
		115					120					125			
Lys	Ala	Ala	Ile	Leu	His	Lys	Thr	Lys	Lys	Leu	Ile	Ala	Leu	Ala	Asn
	130					135					140				
Lys	Ala	Tyr	Pro	Ser	Ile	Val	Lys	Arg	Gly	Gly	Gly	Ala	Arg	Thr	Ile
145					150					155					160
His	Leu	Glu	Glu	Lys	Gly	Glu	Phe	Leu	Ile	Phe	Tyr	Leu	Thr	Val	Asp
				165					170					175	
Thr	Gln	Glu	Ala	Met	Gly	Ala	Asn	Met	Val	Asn	Thr	Met	Met	Glu	Ala
			180					185					190		
Leu	Val	Pro	Asp	Leu	Thr	Arg	Leu	Ser	Lys	Gly	His	Cys	Leu	Met	Ala
		195					200					205			
Ile	Leu	Ser	Asn	Tyr	Ala	Thr	Glu	Ser	Leu	Val	Thr	Thr	Ser	Cys	Glu
	210					215					220				
Ile	Pro	Val	Arg	Leu	Leu	Asp	Arg	Asp	Lys	Thr	Lys	Ser	Leu	Gln	Leu
225					230					235					240
Ala	Gln	Lys	Ile	Glu	Leu	Ala	Ser	Arg	Leu	Ala	Gln	Val	Asp	Pro	Tyr
				245					250					255	
Arg	Ala	Thr	Thr	His	Asn	Lys	Gly	Ile	Phe	Asn	Gly	Ile	Asp	Ala	Val
			260					265					270		
Val	Ile	Ala	Thr	Gly	Asn	Asp	Trp	Arg	Ala	Ile	Glu	Ala	Gly	Ala	His
		275					280					285			
Ala	Tyr	Ala	Ser	Arg	Asn	Gly	Ser	Tyr	Gln	Gly	Leu	Ser	Gln	Trp	His
	290					295					300				
Phe	Asp	Gln	Asp	Lys	Gln	Val	Leu	Leu	Gly	Gln	Met	Thr	Leu	Pro	Met
305					310					315					320
Pro	Ile	Ala	Ser	Lys	Gly	Gly	Ser	Ile	Gly	Leu	Asn	Pro	Thr	Val	Ser
				325					330					335	
Ile	Ala	His	Asp	Leu	Leu	Asn	Gln	Pro	Asp	Ala	Lys	Thr	Leu	Ala	Gln
			340					345					350		

Leu Ile Ala Ser Val Gly Leu Ala Gln Asn Phe Ala Ala Leu Lys Ala
 355 360 365

Leu Thr Ser Ser Gly Ile Gln Ala Gly His Met Lys Leu His Ala Lys
 370 375 380

Ser Leu Ala Leu Leu Ala Gly Ala Thr Gln Asp Glu Ile Ala Pro Leu
 385 390 395 400

Val Asn Ala Leu Leu Ala Asp Lys Pro Ile Asn Leu Glu Lys Ala His
 405 410 415

Phe Tyr Leu Ser Gln Leu Arg Gln Ser
 420 425

<210> 173
 <211> 425
 <212> PRT
 <213> Staphylococcus epidermidis

<400> 173

Met Lys Ser Leu Asp Lys Gly Phe Arg His Leu Thr Arg Lys Asp Lys
 1 5 10 15

Leu Lys Lys Leu Val Glu Tyr Gly Trp Leu Asp Asp Glu Asn Tyr Glu
 20 25 30

Ile Leu Leu Asn His Pro Leu Ile Asn Glu Glu Val Ala Asn Ser Leu
 35 40 45

Ile Glu Asn Val Ile Gly Gln Gly Ala Leu Pro Val Gly Leu Leu Pro
 50 55 60

Arg Ile Ile Val Asp Asp Lys Glu Tyr Val Val Pro Met Met Val Glu
 65 70 75 80

Glu Pro Ser Val Val Ala Ala Ala Ser Tyr Gly Ala Lys Leu Val Asn
 85 90 95

Gln Ser Gly Gly Phe Lys Thr Ile Ser Ser Glu Arg Leu Met Ile Gly
 100 105 110

Gln Ile Val Phe Asp Asp Val Glu Asp Thr Gly Thr Leu Ala Asn Ser
 115 120 125

Ile Tyr Gln Ile Glu Ser Gln Ile His Gln Ile Ala Asp Glu Ala Tyr
 130 135 140

Pro Ser Ile Lys Ala Arg Gly Gly Gly Tyr Gln Arg Ile Glu Ile Asp
 145 150 155 160

Thr Phe Pro Asn His Arg Leu Leu Ser Leu Lys Val Phe Val Asp Thr
 165 170 175

Lys Asp Ala Met Gly Ala Asn Met Leu Ile Thr Ile Leu Glu Ala Ile
 180 185 190

Thr Ala His Leu Lys Val Lys Ile Phe Asn Gln Asn Val Leu Met Ser
 195 200 205

Ile Leu Ser Asn His Ala Thr Ala Ser Val Val Gln Val Gln Gly Glu
 210 215 220

Ile Asp Ile Glu Asp Leu His Arg Gly Glu Arg Ser Gly Glu Glu Val
 225 230 235 240

Ala Gln Arg Met Glu Arg Ala Ser Val Leu Ala Gln Val Asp Ile His
 245 250 255

Arg Ala Ala Thr His Asn Lys Gly Val Met Asn Gly Ile His Ala Val
 260 265 270

Val Leu Ala Thr Gly Asn Asp Thr Arg Gly Val Glu Ala Ser Ala His
 275 280 285

Ala Tyr Ala Ser Lys Asp Gly His Tyr Arg Gly Ile Ala Thr Trp Glu
 290 295 300

Tyr Asp Arg Ser Arg Asn Lys Leu Val Gly Thr Ile Glu Val Pro Met
 305 310 315 320

Thr Leu Ala Thr Val Gly Gly Gly Thr Lys Val Leu Pro Ile Ala Lys
 325 330 335

Ala Ser Leu Asn Leu Leu Asn Val Glu Asn Ala Gln Glu Leu Gly Gln
 340 345 350

Val Val Ala Ala Val Gly Leu Ala Gln Asn Phe Ser Ala Cys Arg Ala
 355 360 365

Leu Val Ser Glu Gly Ile Gln Gln Gly His Met Ser Leu Gln Tyr Lys

370

375

380

Ser Leu Ala Ile Val Val Gly Ala Lys Gly Glu Glu Ile Ala Gln Val
 385 390 395 400

Ala Glu Ala Leu Lys Tyr Glu Ser Gln Ala Asn Thr Ala Lys Ala Gln
 405 410 415

Glu Ile Leu Met Asn Ile Arg Lys Ser
 420 425

<210> 174

<211> 425

<212> PRT

<213> Staphylococcus haemolyticus

<400> 174

Met Lys Ser Leu Asp Lys Thr Phe Arg His Leu Ser Arg Glu Asp Lys
 1 5 10 15

Leu Lys Gln Leu Val Asp Tyr Gly Trp Leu Thr Asp Glu Ser Tyr Asp
 20 25 30

Val Leu Leu Lys Asn Pro Leu Ile Asn Glu Glu Val Ala Asn Ser Leu
 35 40 45

Ile Glu Asn Val Ile Gly Gln Gly Thr Leu Pro Val Gly Leu Leu Pro
 50 55 60

Lys Ile Ile Val Asp Asp Lys Glu Tyr Val Val Pro Met Met Val Glu
 65 70 75 80

Glu Pro Ser Val Val Ala Ala Ala Ser Tyr Gly Ala Lys Leu Val Asn
 85 90 95

Asn Thr Gly Gly Phe Lys Thr Val Lys Ser Glu Arg Leu Met Ile Gly
 100 105 110

Gln Ile Val Phe Asp Asp Val Ser Asp Thr Asp Ala Leu Ala Gln Ala
 115 120 125

Ile Tyr Asp Leu Glu Pro Gln Ile Lys Gln Ile Ala Ala Glu Ala Tyr
 130 135 140

Pro Ser Ile Ile Glu Arg Gly Gly Gly Tyr Arg Arg Ile Glu Ile Asp
 145 150 155 160

Thr Phe Pro Glu Asn Gln Leu Leu Ser Leu Lys Val Phe Val Asp Thr
165 170 175

Lys Asp Ala Met Gly Ala Asn Met Leu Asn Thr Ile Leu Glu Ala Ile
180 185 190

Thr Ala His Met Lys Asn Glu Phe Pro Asn Arg Asp Val Leu Met Ser
195 200 205

Ile Leu Ser Asn His Ala Thr Ala Ser Val Val Arg Val Gln Gly Glu
210 215 220

Ile Asp Ile Lys Asp Leu Asn Lys Gly Asp Arg Ser Gly Glu Glu Val
225 230 235 240

Ala Gln Arg Met Glu Arg Ala Ser Val Leu Ala Gln Val Asp Ile His
245 250 255

Arg Ala Ala Thr His Asn Lys Gly Val Met Asn Gly Ile His Ala Val
260 265 270

Val Leu Ala Thr Gly Asn Asp Thr Arg Gly Ala Glu Ala Ser Ala His
275 280 285

Ala Tyr Ala Ser Arg Asp Gly Gln Tyr Arg Gly Ile Ala Thr Trp Lys
290 295 300

Phe Asp Lys Glu Arg Gly Arg Leu Val Gly Thr Ile Glu Val Pro Met
305 310 315 320

Thr Leu Ala Ile Val Gly Gly Gly Thr Lys Val Leu Pro Ile Ala Lys
325 330 335

Ala Ser Leu Glu Leu Leu Asn Val Gln Ser Ala Gln Glu Leu Gly Gln
340 345 350

Val Val Ala Ala Val Gly Leu Ala Gln Asn Phe Ser Ala Cys Arg Ala
355 360 365

Leu Val Ser Glu Gly Ile Gln Lys Gly His Met Ser Leu Gln Tyr Lys
370 375 380

Ser Leu Ala Ile Val Val Gly Ala Gln Gly Asp Glu Ile Ala Arg Val
385 390 395 400

Ala Glu Ala Leu Lys Ala Ala Pro Lys Ala Asn Thr Ala Thr Ala Gln
405 410 415

Gln Ile Leu Lys Asp Leu Arg Gln Gln
420 425

<210> 175

<211> 425

<212> PRT

<213> Staphylococcus aureus

<400> 175

Met Gln Ser Leu Asp Lys Asn Phe Arg His Leu Ser Arg Gln Gln Lys
1 5 10 15

Leu Gln Gln Leu Val Asp Lys Gln Trp Leu Ser Glu Asp Gln Phe Asp
20 25 30

Ile Leu Leu Asn His Pro Leu Ile Asp Glu Glu Val Ala Asn Ser Leu
35 40 45

Ile Glu Asn Val Ile Ala Gln Gly Ala Leu Pro Val Gly Leu Leu Pro
50 55 60

Asn Ile Ile Val Asp Asp Lys Ala Tyr Val Val Pro Met Met Val Glu
65 70 75 80

Glu Pro Ser Val Val Ala Ala Ala Ser Tyr Gly Ala Lys Leu Val Asn
85 90 95

Gln Thr Gly Gly Phe Lys Thr Val Ser Ser Glu Arg Ile Met Ile Gly
100 105 110

Gln Ile Val Phe Asp Gly Val Asp Asp Thr Glu Lys Leu Ser Ala Asp
115 120 125

Ile Lys Ala Leu Glu Lys Gln Ile His Lys Ile Ala Asp Glu Ala Tyr
130 135 140

Pro Ser Ile Lys Ala Arg Gly Gly Gly Tyr Gln Arg Ile Ala Ile Asp
145 150 155 160

Thr Phe Pro Glu Gln Gln Leu Leu Ser Leu Lys Val Phe Val Asp Thr
165 170 175

Lys Asp Ala Met Gly Ala Asn Met Leu Asn Thr Ile Leu Glu Ala Ile
180 185 190

Thr Ala Phe Leu Lys Asn Glu Ser Pro Gln Ser Asp Ile Leu Met Ser
 195 200 205

Ile Leu Ser Asn His Ala Thr Ala Ser Val Val Lys Val Gln Gly Glu
 210 215 220

Ile Asp Val Lys Asp Leu Ala Arg Gly Glu Arg Thr Gly Glu Glu Val
 225 230 235 240

Ala Lys Arg Met Glu Arg Ala Ser Val Leu Ala Gln Val Asp Ile His
 245 250 255

Arg Ala Ala Thr His Asn Lys Gly Val Met Asn Gly Ile His Ala Val
 260 265 270

Val Leu Ala Thr Gly Asn Asp Thr Arg Gly Ala Glu Ala Ser Ala His
 275 280 285

Ala Tyr Ala Ser Arg Asp Gly Gln Tyr Arg Gly Ile Ala Thr Trp Arg
 290 295 300

Tyr Asp Gln Lys Arg Gln Arg Leu Ile Gly Thr Ile Glu Val Pro Met
 305 310 315 320

Thr Leu Ala Ile Val Gly Gly Gly Thr Lys Val Leu Pro Ile Ala Lys
 325 330 335

Ala Ser Leu Glu Leu Leu Asn Val Asp Ser Ala Gln Glu Leu Gly His
 340 345 350

Val Val Ala Ala Val Gly Leu Ala Gln Asn Phe Ala Ala Cys Arg Ala
 355 360 365

Leu Val Ser Glu Gly Ile Gln Gln Gly His Met Ser Leu Gln Tyr Lys
 370 375 380

Ser Leu Ala Ile Val Val Gly Ala Lys Gly Asp Glu Ile Ala Gln Val
 385 390 395 400

Ala Glu Ala Leu Lys Gln Glu Pro Arg Ala Asn Thr Gln Val Ala Glu
 405 410 415

Arg Ile Leu Gln Glu Ile Arg Gln Gln
 420 425

<210> 176
 <211> 866
 <212> PRT
 <213> Ips paraconfusus

<400> 176

Met Val Ser Arg Leu Phe Leu Ala His Gly Glu Phe Cys Thr Asn His
 1 5 10 15

Pro Trp Glu Val Ile Val Ala Thr Leu Thr Leu Thr Ala Cys Met Leu
 20 25 30

Thr Val Glu Arg Gln Asn Pro Ile Pro Pro Thr Lys Pro Ile Thr Thr
 35 40 45

Ser Cys Gln Gly Cys Ile Gln Glu Ala Glu Tyr Asn Ala Ala Asp Leu
 50 55 60

Ile Ser Met Thr Ile Leu Arg Ser Leu Ala Val Leu Tyr Cys Tyr Tyr
 65 70 75 80

Gln Phe Arg Lys Leu His Lys Leu Gly Ser Arg Tyr Ile Leu Gly Ile
 85 90 95

Ala Glu Leu Phe Thr Val Phe Ser Ser Phe Ile Phe Thr Thr Thr Val
 100 105 110

Leu Asn Leu Leu Arg Val Glu Val Ser Asp Leu Lys Asp Ala Leu Phe
 115 120 125

Phe Phe Leu Leu Leu Ile Asp Leu Ser Lys Ala Gly Met Leu Ala Gln
 130 135 140

Phe Ala Leu Thr Ser Gln Asn Glu Ile Glu Gly Lys Asn Asn Ile Ala
 145 150 155 160

Lys Gly Leu Ala Glu Leu Gly Pro Thr Ile Thr Leu Asp Thr Val Val
 165 170 175

Glu Thr Leu Val Ile Gly Val Gly Thr Leu Ser Gly Val Glu Arg Leu
 180 185 190

Glu Met Leu Ser Trp Phe Ala Cys Leu Ser Val Leu Val Asn Tyr Val
 195 200 205

Val Phe Met Ala Phe Tyr Pro Ala Cys Leu Ser Leu Ile Leu Glu Leu

210	215	220															
Ser	Arg	Ser	Thr	Asn	Phe	Tyr	Lys	Thr	Lys	Asp	Pro	Trp	Met	Ile	Phe		
225					230					235					240		
Ala	Phe	Lys	Glu	Glu	Glu	His	Lys	Ser	Asn	Pro	Val	Val	Gln	Arg	Val		
				245					250					255			
Lys	Leu	Ile	Met	Ser	Val	Gly	Leu	Met	Ile	Val	His	Val	His	Ser	Arg		
			260					265						270			
Trp	Pro	Phe	Lys	Asp	Ser	Glu	Val	Tyr	Asn	Ile	Glu	Pro	Leu	Val	Gln		
		275					280					285					
Gln	Ser	Phe	Asn	Asn	Thr	Glu	Glu	Ser	Asn	Ser	Leu	His	Gly	Tyr	Phe		
	290					295					300						
Glu	Arg	Trp	Leu	Ala	Leu	Gly	Ala	Asp	His	Ile	Val	Ile	Leu	Ile	Leu		
305					310					315					320		
Ile	Thr	Ala	Leu	Leu	Ile	Lys	Leu	Leu	Phe	Phe	Glu	Ile	Gln	Asp	Leu		
				325					330					335			
Thr	Glu	Ile	Arg	Asp	Gln	Glu	Thr	Gln	Val	Glu	Pro	Glu	Lys	Ser	Glu		
			340					345					350				
Lys	Ala	Glu	Asn	Thr	Glu	Lys	Glu	Glu	Leu	Lys	Val	Val	Gln	Glu	Val		
		355					360					365					
Arg	Glu	Asn	Lys	Arg	Met	Pro	Met	Phe	Ser	Leu	Ser	Glu	Asp	Asp	Ser		
	370					375					380						
Cys	Glu	Thr	Thr	Phe	Gln	Asp	Lys	Glu	Val	Gln	Thr	Gln	Thr	Pro	Tyr		
385					390					395					400		
Asn	Ser	Glu	Ala	His	Ser	Ser	Ser	Glu	Asp	Asp	Ile	Pro	Lys	Val	Cys		
				405					410					415			
Lys	Thr	Leu	Glu	Asp	Cys	Leu	Lys	Ile	Tyr	Asn	Asn	Val	Asp	Met	Gly		
			420					425					430				
Ala	Thr	Ala	Leu	Thr	Asp	Glu	Glu	Ile	Ile	Leu	Leu	Ile	Lys	Asn	Arg		
		435					440						445				
His	Ile	Ala	Gly	Tyr	Gln	Ile	Glu	Lys	Ala	Val	Asp	Asn	Pro	Glu	Arg		
	450					455					460						

Gly Val Gly Ile Arg Arg Lys Ile Leu Gly Arg Asp Leu Asp Ala Pro
465 470 475 480

Lys Val Leu Glu Gly Leu Pro Tyr Arg Asn Tyr Asp Tyr Ser Leu Val
485 490 495

Met Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro Val
500 505 510

Gly Tyr Ala Gly Pro Leu Val Leu Asp Gly Lys Glu Ile Tyr Val Pro
515 520 525

Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys
530 535 540

Arg Ala Leu Lys Glu Ala Gly Val Thr Ser Arg Ile Val Ala Asp Gly
545 550 555 560

Met Thr Arg Gly Pro Val Val Arg Phe Pro Ser Ile Ile Arg Ala Ser
565 570 575

Gln Ala Met Gln Trp Ile Gln Asp Asn Phe Asp Gly Ile Lys Glu Gln
580 585 590

Phe Asp Ser Ser Ser Arg Phe Ala Arg Leu Gln Arg Val Thr Met Lys
595 600 605

Ile Ala Gly Arg Leu Leu Phe Ile Arg Phe Val Ala Thr Thr Gly Asp
610 615 620

Ala Met Gly Met Asn Met Leu Ser Lys Gly Thr Glu Tyr Ser Leu Lys
625 630 635 640

Phe Val Gln Arg Ala Phe Glu Asp Met Glu Ile Leu Ser Leu Ser Gly
645 650 655

Asn Phe Cys Thr Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly
660 665 670

Arg Gly Lys Ser Val Val Cys Glu Ala Ile Val Pro Ala Lys Ile Val
675 680 685

Ala Asn Ile Leu Lys Thr Asn Val His Ala Leu Val Asp Val Asn Asn
690 695 700

Ser Lys Asn Met Val Gly Ser Ala Val Ala Gly Ser Ile Gly Gly Phe
705 710 715 720

Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile Phe Leu Ala Thr Gly
725 730 735

Gln Asp Pro Ala Gln Asn Val Gly Ser Ser Asn Cys Met Thr Leu Met
740 745 750

Glu Pro Trp Gly Pro Thr Gly Glu Asp Leu Tyr Ile Ser Cys Thr Met
755 760 765 .

Pro Ser Ile Glu Ile Gly Thr Ile Gly Gly Gly Thr Ile Leu Pro Pro
770 775 780

Gln Gly Thr Cys Leu Glu Met Leu Gly Val Arg Gly Ser Asn Ile Ala
785 790 795 800

Glu Pro Gly Ala Asn Ala Ser Gln Leu Ala Lys Ile Val Gly Ala Thr
805 810 815

Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Leu Ala Ala Gly His
820 825 830

Leu Val Arg Ser His Leu Arg His Asn Arg Ser Thr Thr Leu Leu Pro
835 840 845

Asp Ala Phe Asp Lys Asn Lys Asn Ile Leu Val Pro Pro Cys Lys Asp
850 855 860

Lys Val
865

<210> 177
<211> 353
<212> PRT
<213> Kitasatospora griseola

<400> 177

Met Thr Glu Ala His Ala Thr Ala Gly Val Pro Met Arg Trp Val Gly
1 5 10 15

Pro Val Arg Ile Ser Gly Asn Val Ala Thr Ile Glu Thr Gln Val Pro
20 25 30

Leu Ala Thr Tyr Glu Ser Pro Leu Trp Pro Ser Val Gly Arg Gly Ala

35	40	45
Lys Val Ser Arg Leu Thr Glu Lys Gly Ile Val Ala Thr Leu Val Asp 50 55 60		
Glu Arg Met Thr Arg Ser Val Leu Val Glu Ala Thr Asp Ala Leu Thr 65 70 75 80		
Ala Leu Ser Ala Ala Arg Thr Ile Glu Ala Arg Ile Asp Glu Leu Arg 85 90 95		
Glu Leu Val Arg Gly Cys Ser Arg Phe Ala Gln Leu Ile Gly Ile Arg 100 105 110		
His Glu Ile Thr Gly Asn Leu Leu Phe Val Arg Phe Glu Phe Ser Thr 115 120 125		
Gly Asp Ala Ser Gly His Asn Met Ala Thr Leu Ala Ser Asp Val Leu 130 135 140		
Leu Gln His Leu Leu Glu Thr Val Pro Gly Ile Ser Tyr Gly Ser Ile 145 150 155 160		
Ser Gly Asn Tyr Cys Thr Asp Lys Lys Ala Thr Ala Ile Asn Gly Ile 165 170 175		
Leu Gly Arg Gly Lys Asn Val Val Thr Glu Leu Leu Val Pro Arg Asp 180 185 190		
Val Val Ala Asp Val Leu Asn Thr Thr Ala Ala Lys Ile Ala Glu Leu 195 200 205		
Asn Leu Arg Lys Asn Leu Leu Gly Thr Leu Leu Ala Gly Gly Ile Arg 210 215 220		
Ser Ala Asn Ala His Tyr Ala Asn Met Leu Leu Ala Phe Tyr Leu Ala 225 230 235 240		
Thr Gly Gln Asp Ala Ala Asn Ile Val Glu Gly Ser Gln Gly Val Val 245 250 255		
Thr Ala Glu Asp Arg Asp Gly Asp Leu Tyr Leu Ala Cys Thr Leu Pro 260 265 270		
Asn Leu Ile Val Gly Thr Val Gly Asn Gly Lys Gly Leu Gly Phe Val 275 280 285		

Glu Thr Asn Leu Asn Arg Leu Gly Cys Arg Ala Asp Arg Glu Pro Gly
 290 295 300

Glu Asn Ala Arg Arg Leu Ala Val Ile Ala Ala Ala Thr Val Leu Cys
 305 310 315 320

Gly Glu Leu Ser Leu Leu Ala Ala Gln Thr Asn Pro Gly Glu Leu Met
 325 330 335

Arg Ala His Val Gln Leu Glu Arg Gly His Thr Thr Ala Lys Ala Gly
 340 345 350

Val

<210> 178
 <211> 434
 <212> PRT
 <213> Leishmania major

<400> 178

Met Arg Arg Ser Leu Leu Leu Ala Cys Ser Ala Ala Lys Gly Glu Ser
 1 5 10 15

Trp Ala Ser Met Ser Asp Thr Glu Ile Met Lys Gln Val Glu Asn Lys
 20 25 30

Lys Ile Ala Phe His Gly Leu Glu Gln Ala Leu Ala Pro Asp Tyr Asp
 35 40 45

Arg Ala Ile Ala Ile Arg Arg Glu Ile Val Lys Lys Lys Ile Cys Pro
 50 55 60

Ser Pro Ala Ala Thr His Pro Leu Glu Arg Val Pro Tyr Lys Asn Tyr
 65 70 75 80

Asp Trp Ser Ser Val Val Gly Gln Ser Cys Glu Asn Ile Leu Gly Tyr
 85 90 95

Val Pro Val Pro Val Gly Leu Ala Gly Pro Leu Leu Leu Asp Gly Lys
 100 105 110

Glu Val Ala Leu Pro Met Ala Thr Thr Glu Gly Ala Leu Val Ala Ser
 115 120 125

Ala His Arg Gly Ala Arg Ala Ile Asn Leu Ser Gly Gly Cys Arg Thr
 130 135 140
 Ala Val Leu Lys Glu Gly Met Thr Arg Ala Pro Val Val Glu Val Asn
 145 150 155 160
 Ser Phe Asp Glu Ala Ile Thr Val Ile Lys Phe Cys Glu Glu Arg Phe
 165 170 175
 Asp Val Leu Arg Glu Ala Phe Glu Ser Thr Thr Arg Phe Gly Lys Leu
 180 185 190
 Leu Ser Ile Lys Cys Ala Met Ala Gly Arg Gln Val His Leu Arg Phe
 195 200 205
 Ser Ala Phe Thr Gly Asp Ala Met Gly Met Asn Met Ile Thr Lys Gly
 210 215 220
 Cys Asp Lys Ala Leu Gln Val Leu Gln Gln His Ile Pro Ser Val Arg
 225 230 235 240
 Val Leu Thr Leu Ser Gly Asn Phe Cys Thr Asp Lys Lys Pro Ser Ala
 245 250 255
 Leu Asn Trp Val Glu Gly Arg Gly Lys Ser Val Val Ala Glu Ala Val
 260 265 270
 Ile Lys Arg Asp Val Val Glu Ser Val Leu Lys Cys Thr Val Asp Ser
 275 280 285
 Val Val Ser Leu Asn Val Thr Lys Asn Leu Arg Gly Ser Ala Leu Ala
 290 295 300
 Gly Ser Ile Gly Gly Phe Asn Ala His Ala Ala Asn Ile Val Ala Ala
 305 310 315 320
 Leu Tyr Ile Ala Thr Gly Gln Asp Pro Ala Gln Val Val Glu Ser Ala
 325 330 335
 Thr Cys Met Thr Thr Val Asp Lys Ala Gly Glu Asp Leu Val Ile Ser
 340 345 350
 Leu Met Met Pro Ser Ile Glu Val Gly Ala Val Gly Gly Gly Thr Gly
 355 360 365
 Leu Ser Ser Gln Arg Ala Met Leu Glu Leu Met Gly Cys Ala Gly Ser

370

375

380

Asn Lys Glu Asp Pro Gly Ala His Ser Arg Gln Ile Ala Arg Val Val
 385 390 395 400

Ala Gly Ala Val Ile Cys Gly Glu Leu Ser Leu Leu Ser Gly Leu Ala
 405 410 415

Ala Gly His Leu Leu Ser Ala His Met Lys Leu Asn Arg Lys Pro Pro
 420 425 430

Thr Pro

<210> 179
 <211> 106
 <212> PRT
 <213> *Gibberella fujikuroi*

<400> 179

Pro Met Ala Thr Thr Glu Gly Val Leu Val Ala Ser Ala Ser Arg Gly
 1 5 10 15

Cys Lys Ala Ile Asn Ser Gly Gly Gly Ala Ile Thr Val Leu Thr Ala
 20 25 30

Asp Gly Met Thr Arg Gly Pro Cys Val Ala Phe Glu Thr Leu Glu Arg
 35 40 45

Ala Gly Ala Ala Lys Leu Trp Leu Asp Ser Glu Ala Gly Gln Asp Met
 50 55 60

Met Lys Lys Ala Phe Asn Ser Thr Ser Ser Phe Ala Arg Leu Gln Ser
 65 70 75 80

Met Lys Thr Ala Leu Ala Gly Thr Asn Leu Tyr Ile Arg Phe Lys Thr
 85 90 95

Thr Thr Gly Asp Ala Met Gly Met Asn Met
 100 105

<210> 180
 <211> 247
 <212> PRT
 <213> *Anthonomus grandis*

<220>
 <221> MISC_FEATURE

<222> (1)..(247)
<223> x equals unknown

<400> 180

Glu Ala Met Gly Met Asn Met Ile Ser Lys Gly Thr Glu Lys Ser Leu
1 5 10 15

Ala Tyr Ile Lys Ser His Phe Glu Asp Met Glu Ile Leu Ser Leu Ser
20 25 30

Gly Asn Val Cys Thr Asp Lys Lys Pro Ser Ala Ile Asn Trp Ile Glu
35 40 45

Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Val Pro Ala Asn Ile
50 55 60

Val His Ser Ile Leu Lys Thr Thr Thr His Ala Leu Val Asp Leu Asn
65 70 75 80

Ile Ser Lys Asn Met Val Gly Ser Ala Val Ser Ala Ala Ile Gly Gly
85 90 95

Phe Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Thr
100 105 110

Gly Gln Asp Val Ala Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu
115 120 125

Met Glu Pro Cys Gly Asp Lys Gly Glu Asp Leu Leu Ile Ser Cys Thr
130 135 140

Met Pro Ser Val Glu Ile Gly Thr Val Gly Gly Gly Thr Val Leu Pro
145 150 155 160

Ala Gln Gly Ala Cys Leu Glu Met Leu Gly Val Lys Gly Ala His Ser
165 170 175

Glu Asn Pro Gly Asp Asn Ala Lys Gln Leu Ala Lys Ile Val Cys Gly
180 185 190

Ala Val Leu Ala Gly Glu Leu Ser Leu Met Ala Ala Leu Val Thr Gly
195 200 205

His Leu Val Lys Ser His Leu Arg Leu Asn Arg Ser Tyr Ser Glu Lys
210 215 220

Asp Ser Pro Phe Lys Lys Ser Val Gly Gly Ser Ser Xaa Met Ser Asn
 225 230 235 240

Ile Thr Gln Phe Gln Tyr Gly
 245

<210> 181
 <211> 846
 <212> PRT
 <213> Dendroctonus jeffreyi

<400> 181

Met Ala Ser Arg Leu Phe Arg Val His Gly Glu Phe Cys Thr Asn His
 1 5 10 15

Pro Trp Glu Val Ile Val Ala Thr Leu Thr Leu Thr Ala Cys Met Leu
 20 25 30

Thr Val Glu Gln Gln Pro Pro Leu Arg Pro Ile Lys Pro Thr Ile Lys
 35 40 45

Ser Cys Leu Gly Cys Ile Gln Glu Ala Glu His Asn Ala Ala Asp Leu
 50 55 60

Ile Ser Met Thr Ile Leu Arg Ser Leu Ala Val Leu Tyr Cys Tyr Tyr
 65 70 75 80

Gln Phe Arg Lys Met His Lys Leu Gly Ser Lys Tyr Val Leu Gly Ile
 85 90 95

Ala Gly Leu Phe Thr Val Phe Ser Ser Leu Val Phe Thr Thr Thr Val
 100 105 110

Leu Asn Ile Leu Arg Ile Lys Val Ser Asp Leu Lys Asp Ala Leu Phe
 115 120 125

Phe Phe Leu Leu Leu Ile Asp Leu Ser Lys Ala Ala Ile Leu Ala Gln
 130 135 140

Phe Ala Leu Asn Gly Ala Asn Gln Ala Glu Arg Lys Thr Asn Ile Ala
 145 150 155 160

Lys Gly Leu Ala Glu Leu Gly Pro Thr Ile Thr Leu Asp Thr Leu Val
 165 170 175

Glu Thr Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Ala Arg Leu

180					185					190					
Glu	Met	Leu	Ser	Trp	Phe	Ala	Cys	Leu	Ser	Val	Leu	Val	Asn	Tyr	Ile
		195					200					205			
Val	Phe	Met	Thr	Phe	Tyr	Pro	Ala	Cys	Leu	Ser	Leu	Ile	Leu	Glu	Leu
	210					215					220				
Ser	Gln	Ser	Ser	Asn	Phe	Cys	Lys	Thr	Lys	Asp	Ser	Trp	Lys	Ile	Phe
225					230					235					240
Ala	Phe	Lys	Glu	Asp	Arg	Lys	Ser	Asn	Pro	Val	Leu	Gln	Arg	Val	Lys
				245					250					255	
Leu	Ile	Met	Ser	Val	Gly	Leu	Met	Val	Val	His	Val	Gln	Ser	Arg	Trp
			260					265						270	
Pro	Phe	Arg	Asp	Ser	Glu	Val	Tyr	Thr	Ile	Glu	Pro	Leu	Val	Gln	Gln
		275					280					285			
Ser	Phe	Asn	Lys	Thr	Asp	Asp	Ser	Ile	Ala	Thr	His	Val	Ser	Phe	Ile
	290					295					300				
Arg	Trp	Leu	Val	Leu	Gly	Ala	Asp	His	Ile	Val	Ile	Ile	Ile	Leu	Val
305					310					315					320
Ser	Ala	Leu	Leu	Ile	Lys	Leu	Ile	Phe	Phe	Glu	Ile	Lys	Asp	Asn	Leu
				325					330					335	
Val	Glu	Ile	Lys	Pro	Gly	Phe	Asp	Lys	Glu	Thr	Pro	Lys	Pro	Thr	Lys
			340					345					350		
Gln	Met	Pro	Met	Ile	Asn	Phe	Thr	Leu	Gly	Glu	Ser	Cys	Glu	Ser	Thr
		355					360					365			
Tyr	Glu	Asp	Lys	Glu	Val	Gln	Thr	Leu	Ala	Thr	Ser	Asn	Ser	Asp	Val
	370					375					380				
Asp	Ser	Ser	Ser	Asp	Asp	Gly	Val	Pro	Lys	Gln	Cys	Arg	Ser	Leu	Glu
385					390					395					400
Asp	Cys	Val	Lys	Ile	Phe	Lys	Asn	Ile	Asp	Leu	Gly	Ala	Thr	Ala	Leu
				405					410					415	
Thr	Asp	Asp	Glu	Ile	Ile	Leu	Leu	Ile	Lys	Asn	Lys	Asn	Ile	Ala	Ala
			420					425					430		

Tyr Gln Ile Glu Lys Glu Val Asp Asp Pro Glu Arg Gly Val Gly Ile
435 440 445

Arg Arg Lys Ile Leu Gly Arg Asp Leu Leu Glu Ser Pro Lys Leu Leu
450 455 460

Glu Asn Leu Pro Phe Arg Asn Tyr Asp Tyr Ser Leu Val Met Gly Ala
465 470 475 480

Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro Val Gly Tyr Ala
485 490 495

Gly Pro Leu Leu Leu Asp Gly Arg Glu Leu Tyr Ile Pro Met Ala Thr
500 505 510

Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Leu
515 520 525

Lys Val Ser Gly Val Thr Ser Ser Val Val Ala Asp Gly Met Thr Arg
530 535 540

Gly Pro Val Val Arg Phe Pro Ser Ile Val Arg Thr Ser Gln Ala Met
545 550 555 560

Gln Trp Ile Gln Asp Pro Asp Asn Phe Lys Lys Ile Lys Glu Gln Phe
565 570 575

Asp Ser Ser Ser Arg Phe Ala Arg Leu Gln Arg Leu Thr Leu Lys Ile
580 585 590

Ala Gly Arg Phe Leu Phe Ile Arg Phe Ile Ala Thr Thr Gly Asp Ala
595 600 605

Met Gly Met Asn Met Leu Ser Lys Gly Thr Glu Tyr Ser Leu Lys Leu
610 615 620

Val Gln Gln Val Phe Tyr Asp Met Glu Ile Leu Ser Leu Ser Gly Asn
625 630 635 640

Phe Cys Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg
645 650 655

Gly Lys Ser Val Val Cys Glu Ala Ile Val Pro Ala Lys Ile Ile Ser
660 665 670

Ser Ile Leu Lys Thr Asn Val His Ala Leu Val Asp Val Asn Asn Ile
675 680 685

Gln Glu His Val Gly Ser Ala Val Ala Gly Ser Ile Gly Gly Phe Asn
690 695 700

Ala His Ala Ala Asn Ile Val Thr Ala Ile Phe Leu Ala Thr Gly Gln
705 710 715 720

Asp Pro Ala Gln Asn Val Ser Ser Ser Asn Cys Met Thr Leu Met Glu
725 730 735

Pro Trp Gly Pro Asp Gly Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro
740 745 750

Ser Ile Glu Ile Gly Thr Ile Gly Gly Gly Thr Ile Leu Pro Ala Gln
755 760 765

Ser Ala Cys Leu Asp Ile Leu Gly Val Lys Gly Ser Asn Arg Glu Asn
770 775 780

Pro Gly Ala Asn Ala Cys Gln Leu Ala Lys Ile Val Cys Gly Thr Val
785 790 795 800

Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Leu Thr Ala Gly His Leu
805 810 815

Val Lys Ser His Leu Arg His Asn Arg Ser Thr Thr Leu Leu Pro Asp
820 825 830

Ala Phe Asp Arg Lys Lys Ile Ser Phe Thr Gln Leu Pro Arg
835 840 845

<210> 182

<211> 353

<212> PRT

<213> Streptomyces sp

<400> 182

Met Thr Asp Thr His Ala Ile Ala Met Val Pro Met Lys Trp Val Gly
1 5 10 15

Pro Leu Arg Ile Ser Gly Asn Val Ala Thr Thr Glu Thr His Val Pro
20 25 30

Leu Ala Thr Tyr Glu Thr Pro Leu Trp Pro Ser Val Gly Arg Gly Ala

35					40					45					
Lys	Val	Ser	Met	Leu	Ser	Glu	Arg	Gly	Ile	Ala	Ala	Thr	Leu	Val	Asp
50					55					60					
Glu	Arg	Met	Thr	Arg	Ser	Val	Leu	Val	Glu	Ala	Thr	Asp	Ala	Gln	Thr
65					70					75					80
Ala	Tyr	Thr	Ala	Ala	Arg	Ala	Ile	Glu	Ala	Arg	Ile	Glu	Glu	Leu	Arg
				85					90					95	
Ala	Val	Val	Arg	Thr	Cys	Ser	Arg	Phe	Ala	Glu	Leu	Leu	Gln	Val	Arg
			100					105					110		
His	Glu	Ile	Ala	Gly	Asn	Leu	Leu	Phe	Val	Arg	Phe	Glu	Phe	Ser	Thr
		115					120					125			
Arg	Arg	Pro	Ser	Gly	His	Asn	Met	Ala	Thr	Leu	Ala	Ser	Asp	Ala	Leu
	130					135					140				
Leu	Ala	His	Leu	Leu	Gln	Thr	Ile	Pro	Gly	Ile	Ser	Tyr	Gly	Ser	Ile
145					150					155					160
Ser	Gly	Asn	Tyr	Cys	Thr	Asp	Lys	Lys	Ala	Thr	Ala	Ile	Asn	Gly	Ile
				165					170					175	
Leu	Gly	Arg	Gly	Lys	Asn	Val	Val	Thr	Glu	Leu	Val	Val	Glu	Arg	Glu
			180					185					190		
Val	Val	Glu	Arg	Val	Leu	His	Thr	Thr	Ala	Ala	Lys	Ile	Val	Glu	Leu
		195					200					205			
Asn	Ile	Arg	Lys	Asn	Leu	Leu	Gly	Thr	Leu	Leu	Ala	Gly	Gly	Ile	Arg
	210					215					220				
Ser	Ala	Asn	Ala	His	Tyr	Ala	Asn	Met	Leu	Leu	Gly	Phe	Tyr	Leu	Ala
225					230					235					240
Thr	Gly	Gln	Asp	Ala	Ala	Asn	Ile	Val	Glu	Gly	Ser	Gln	Gly	Val	Thr
				245					250					255	
Leu	Ala	Glu	Asp	Arg	Asp	Gly	Asp	Leu	Tyr	Phe	Ser	Cys	Asn	Leu	Pro
			260					265					270		
Asn	Leu	Ile	Val	Gly	Thr	Val	Gly	Asn	Gly	Lys	Gly	Leu	Glu	Phe	Val
		275					280					285			

Glu Thr Asn Leu Asn Arg Leu Gly Cys Arg Glu Asp Arg Ala Pro Gly
290 295 300

Glu Asn Ala Arg Arg Leu Ala Val Ile Ala Ala Ala Thr Val Leu Cys
305 310 315 320

Gly Glu Leu Ser Leu Leu Ala Ala Gln Thr Asn Pro Gly Glu Leu Met
325 330 335

Arg Ala His Val Glu Leu Glu Arg Asp Asn Thr Thr Ala Glu Val Gly
340 345 350

Val

<210> 183
<211> 353
<212> PRT
<213> Kitasatospora griseola

<400> 183

Met Thr Glu Ala His Ala Thr Ala Gly Val Pro Met Arg Trp Val Gly
1 5 10 15

Pro Val Arg Ile Ser Gly Asn Val Ala Thr Ile Glu Thr Gln Val Pro
20 25 30

Leu Ala Thr Tyr Glu Ser Pro Leu Trp Pro Ser Val Gly Arg Gly Ala
35 40 45

Lys Val Ser Arg Leu Thr Glu Lys Gly Ile Val Ala Thr Leu Val Asp
50 55 60

Glu Arg Met Thr Arg Ser Val Leu Val Glu Ala Thr Asp Ala Leu Thr
65 70 75 80

Ala Leu Ser Ala Ala Arg Thr Ile Glu Ala Arg Ile Asp Glu Leu Arg
85 90 95

Glu Leu Val Arg Gly Cys Ser Arg Phe Ala Gln Leu Ile Gly Ile Arg
100 105 110

His Glu Ile Thr Gly Asn Leu Leu Phe Val Arg Phe Glu Phe Ser Thr
115 120 125

Gly Asp Ala Ser Gly His Asn Met Ala Thr Leu Ala Ser Asp Val Leu
130 135 140

Leu Gln His Leu Leu Glu Thr Val Pro Gly Ile Ser Tyr Gly Ser Ile
145 150 155 160

Ser Gly Asn Tyr Cys Thr Asp Lys Lys Ala Thr Ala Ile Asn Gly Ile
165 170 175

Leu Gly Arg Gly Lys Asn Val Val Thr Glu Leu Leu Val Pro Arg Asp
180 185 190

Val Val Ala Asp Val Leu Asn Thr Thr Ala Ala Lys Ile Ala Glu Leu
195 200 205

Asn Leu Arg Lys Asn Leu Leu Gly Thr Leu Leu Ala Gly Gly Ile Arg
210 215 220

Ser Ala Asn Ala His Tyr Ala Asn Met Leu Leu Ala Phe Tyr Leu Ala
225 230 235 240

Thr Gly Gln Asp Ala Ala Asn Ile Val Glu Gly Ser Gln Gly Val Val
245 250 255

Thr Ala Glu Asp Arg Asp Gly Asp Leu Tyr Leu Ala Cys Thr Leu Pro
260 265 270

Asn Leu Ile Val Gly Thr Val Gly Asn Gly Lys Gly Leu Gly Phe Val
275 280 285

Glu Thr Asn Leu Asn Arg Leu Gly Cys Arg Ala Asp Arg Glu Pro Gly
290 295 300

Glu Asn Ala Arg Arg Leu Ala Val Ile Ala Ala Ala Thr Val Leu Cys
305 310 315 320

Gly Glu Leu Ser Leu Leu Ala Ala Gln Thr Asn Pro Gly Glu Leu Met
325 330 335

Arg Ala His Val Gln Leu Glu Arg Gly His Thr Thr Ala Lys Ala Gly
340 345 350

Val

<210> 184

<211> 567
 <212> PRT
 <213> *Artemisia annua*

<400> 184

Met Asp Leu Arg Arg Lys Leu Pro Pro Lys Pro Pro Ser Ser Thr Thr
 1 5 10 15

Thr Lys Gln Pro Ser His Arg Ser His Ser Pro Thr Pro Ile Pro Lys
 20 25 30

Ala Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Thr Phe Phe
 35 40 45

Phe Thr Leu Phe Phe Ser Val Ala Tyr Tyr Leu Leu His Arg Trp Arg
 50 55 60

Asp Lys Ile Arg Ser Gly Thr Pro Leu His Val Val Thr Leu Thr Glu
 65 70 75 80

Leu Ser Ala Ile Val Leu Leu Ile Ala Ser Phe Ile Tyr Leu Leu Gly
 85 90 95

Phe Phe Gly Ile Asp Phe Val Gln Ser Phe Thr Ser Arg Glu Asn Glu
 100 105 110

Gln Leu Asn Asn Asp Asp His Asn Val Val Ser Thr Asn Asn Val Leu
 115 120 125

Ser Asp Arg Arg Leu Val Tyr Asp Tyr Gly Phe Asp Val Thr Gly Asp
 130 135 140

Asn Asp Asn Asp Asn Asp Asp Asp Val Ile Val Lys Ser Val Val Ser
 145 150 155 160

Gly Glu Val Asn Ser Tyr Ser Leu Glu Ala Ser Leu Gly Asp Cys Tyr
 165 170 175

Arg Ala Ala Lys Ile Arg Lys Arg Ala Val Glu Arg Ile Val Gly Arg
 180 185 190

Glu Val Leu Gly Leu Gly Phe Glu Gly Phe Asp Tyr Glu Ser Ile Leu
 195 200 205

Gly Gln Cys Cys Glu Met Pro Ile Gly Tyr Val Gln Val Pro Val Gly
 210 215 220

Val Ala Gly Pro Leu Leu Leu Asn Gly Gly Glu Phe Met Val Pro Met
 225 230 235 240

Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys
 245 250 255

Ala Ile Cys Leu Ser Gly Gly Ala Thr Ala Ile Leu Leu Lys Asp Gly
 260 265 270

Met Thr Arg Ala Pro Val Val Arg Phe Ala Thr Ala Glu Arg Ala Ser
 275 280 285

Gln Leu Lys Phe Tyr Leu Glu Asp Gly Val Asn Phe Asp Thr Leu Ser
 290 295 300

Val Val Phe Asn Lys Ser Ser Arg Phe Ala Arg Leu Gln Asn Ile Gln
 305 310 315 320

Cys Ser Ile Ala Gly Lys Asn Leu Tyr Ile Arg Phe Thr Cys Ser Thr
 325 330 335

Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val
 340 345 350

Leu Asp Phe Leu Gln Asn Asp Phe Pro Asp Met Asp Val Ile Gly Ile
 355 360 365

Ser Trp Lys Phe Cys Ser Asp Lys Lys Pro Thr Ala Val Asn Trp Ile
 370 375 380

Glu Gly Arg Gly Lys Ser Val Val Phe Gln Ala Val Ile Thr Lys Lys
 385 390 395 400

Val Val Arg Lys Ser Ala Leu Asn Pro Gln Thr Cys Thr Cys Arg Thr
 405 410 415

Leu Thr Cys Leu Arg Pro Leu Leu Val Leu Leu Leu Leu Val Leu Leu
 420 425 430

Val Asp Leu Met His Met Leu His Ile Val Ser Ala Val Phe Ile Ala
 435 440 445

Thr Gly Gln Asp Pro Ala Gln Asn Ile Glu Ser Ser His Cys Ile Thr
 450 455 460

Met Met Glu Ala Val Asn Asn Gly Lys Asp Leu His Val Asn Val Thr
 465 470 475 480

Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala
 485 490 495

Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Cys Ile
 500 505 510

Glu Ser Pro Gly Ser Asn Ala Gln Leu Leu Ala Arg Ile Val Ala Gly
 515 520 525

Ser Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Ile Ser Ala Gly
 530 535 540

Gln Leu Val Lys Ser His Met Lys Tyr Asn Arg Ser Ser Arg Asp Met
 545 550 555 560

Ser Ala Ile Ala Ser Lys Val
 565

<210> 185

<211> 560

<212> PRT

<213> Oryza sativa

<400> 185

Met Glu Val Arg Arg Arg Ala Pro Leu Pro Pro Pro Gly Arg Val
 1 5 10 15

Gln Ala Gly Asp Ala Leu Pro Leu Pro Ile Arg His Thr Asn Leu Ile
 20 25 30

Phe Ser Ala Leu Phe Ala Ala Ser Leu Ala Tyr Leu Met Arg Arg Trp
 35 40 45

Arg Glu Lys Ile Arg Ser Ser Thr Pro Leu His Val Val Gly Leu Ala
 50 55 60

Glu Met Leu Ala Ile Phe Gly Leu Val Ala Ser Leu Ile Tyr Leu Leu
 65 70 75 80

Ser Phe Phe Gly Ile Ala Phe Val Gln Ser Ile Val Ser Ser Ser Asp
 85 90 95

Asp Glu Glu Glu Asp Phe Leu Val Gly Pro Ala Arg Gly Ser Ser Ala
 100 105 110

Ala	Ala	Ala	Val	Ala	Pro	Arg	Ala	Pro	Ser	Ser	Pro	Ala	Gln	Cys	Ser	115	120	125
Leu	Leu	Gly	Ser	Pro	His	Asp	Asp	Ala	Ala	Arg	Glu	Arg	Met	Pro	Glu	130	135	140
Glu	Asp	Glu	Glu	Ile	Val	Ser	Ser	Val	Val	Ala	Gly	Lys	Val	Pro	Ser	145	150	155
Tyr	Val	Leu	Glu	Thr	Lys	Leu	Gly	Asp	Cys	Arg	Arg	Ala	Ala	Gly	Ile	165	170	175
Arg	Arg	Glu	Ala	Val	Arg	Arg	Ile	Thr	Gly	Arg	Gln	Ile	Glu	Gly	Leu	180	185	190
Pro	Leu	Asp	Gly	Phe	Asp	Tyr	Ala	Ser	Ile	Leu	Gly	Gln	Cys	Cys	Glu	195	200	205
Leu	Pro	Val	Gly	Tyr	Val	Gln	Leu	Pro	Val	Gly	Ile	Ala	Gly	Pro	Leu	210	215	220
Leu	Leu	Asp	Gly	Gln	Arg	Phe	Tyr	Val	Pro	Met	Ala	Thr	Thr	Glu	Gly	225	230	235
Cys	Leu	Val	Ala	Ser	Thr	Asn	Arg	Gly	Cys	Lys	Ala	Ile	Ala	Glu	Ser	245	250	255
Gly	Gly	Ala	Val	Ser	Val	Val	Leu	Arg	Asp	Gly	Met	Thr	Arg	Ala	Pro	260	265	270
Val	Ala	Arg	Leu	Pro	Thr	Ala	Arg	Arg	Ala	Ala	Glu	Leu	Lys	Ala	Phe	275	280	285
Leu	Glu	Asp	Ser	Val	Asn	Phe	Asn	Thr	Leu	Ser	Met	Val	Phe	Asn	Arg	290	295	300
Ser	Ser	Arg	Phe	Ala	Arg	Leu	Gln	Gly	Val	Gln	Cys	Ala	Met	Ala	Gly	305	310	315
Arg	Asn	Leu	Tyr	Met	Arg	Phe	Ser	Cys	Cys	Thr	Gly	Asp	Ala	Met	Gly	325	330	335
Met	Asn	Met	Val	Ser	Lys	Gly	Glu	Gln	Asn	Val	Leu	Asp	Tyr	Leu	Gln	340	345	350

Asp Asp Phe Pro Asp Met Asp Val Ile Ser Ile Ser Gly Asn Phe Cys
355 360 365

Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys
370 375 380

Ser Val Val Cys Glu Ala Val Ile Lys Glu Asp Val Val Lys Lys Val
385 390 395 400

Leu Lys Thr Asn Val Gln Ser Leu Val Glu Leu Asn Val Ile Lys Asn
405 410 415

Leu Ala Gly Ser Ala Val Ala Gly Ala Leu Gly Gly Phe Asn Ala His
420 425 430

Ala Ser Asn Ile Val Thr Ala Ile Phe Ile Ala Thr Gly Gln Asp Pro
435 440 445

Ala Gln Asn Val Glu Ser Ser His Cys Ile Thr Met Leu Glu Ala Val
450 455 460

Asn Asp Gly Arg Asp Leu His Ile Ser Val Thr Met Pro Ser Ile Glu
465 470 475 480

Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ala Ala Cys
485 490 495

Leu Asp Leu Leu Gly Val Lys Gly Ala Asn Arg Glu Ser Pro Gly Ser
500 505 510

Asn Ala Arg Leu Leu Ala Thr Val Val Ala Gly Gly Val Leu Ala Gly
515 520 525

Glu Leu Ser Leu Leu Ser Ala Leu Arg Ala Gly Gln Leu Val Lys Ser
530 535 540

His Met Lys Tyr Asn Arg Ser Ser Lys Asp Met Ser Lys Val Ile Ser
545 550 555 560

<210> 186

<211> 587

<212> PRT

<213> Cucumis melo

<400> 186

Met Asp Arg Arg Arg Ser Leu Arg Pro Pro Arg Pro Asn Ala Val Gln

1	5	10	15
Asp Ala Asp	Ala Thr Cys Thr Phe Arg Arg Asp	Glu Gln Asp	Ala Ser
20	25	30	
Ala Ala Asp	His Leu Lys Arg Ala Ser Pro Lys	Ala Ser Asp	Ala Leu
35	40	45	
Pro Leu Pro	Leu Tyr Leu Thr Asn Thr Ile Phe	Phe Thr Leu	Phe Phe
50	55	60	
Ser Val Ala	Tyr Tyr Leu Leu His Arg Trp Arg	Asp Lys Ile Arg	Asn
65	70	75	80
Ser Thr Pro	Leu His Val Val Thr Leu Ser Glu	Ile Ala Ala	Ile Val
85	90	95	
Ser Leu Met	Ala Ser Phe Ile Tyr Leu Leu Gly	Phe Phe Gly	Ile Asp
100	105	110	
Phe Val Gln	Ser Phe Ile Ala Arg Ser Ser Pro	Asp Ala Trp	Asp Leu
115	120	125	
Glu Asp Glu	Ile Asp Arg Thr Leu Leu Ile Asp	Asn Asn Arg	Tyr Ala
130	135	140	
Ala Pro Arg	Ser Ala Val Ala Leu Pro Ser Lys	Val Val Asp	
145	150	155	160
Ala Glu Ala	Leu Asn Thr Ile Pro Leu Pro Glu	Glu Asp Glu	Glu Val
165	170	175	
Val Lys Met	Val Val Asp Gly Ser Val Pro Ser	Tyr Ser Leu	Glu Ser
180	185	190	
Lys Leu Gly	Asp Pro Lys Arg Ala Ala Ser Ile	Arg Arg Glu	Ala Leu
195	200	205	
Gln Arg Thr	Thr Gly Arg Ser Ile His Gly Leu	Pro Phe Glu	Gly Phe
210	215	220	
Asp Tyr Glu	Ser Ile Leu Gly Gln Cys Cys Glu	Met Pro Val	Gly Tyr
225	230	235	240
Val Gln Ile	Pro Val Gly Ile Ala Gly Pro Leu	Leu Leu Asp	Gly Phe
245	250	255	

Glu Tyr Thr Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser
260 265 270

Thr Asn Arg Gly Cys Lys Ala Ile Tyr Ala Ser Gly Gly Ala Thr Ser
275 280 285

Met Leu Leu Lys Asp Gly Met Thr Arg Ala Pro Val Val Arg Phe Gly
290 295 300

Ser Ala Lys Arg Ala Ser Glu Leu Lys Phe Phe Leu Glu Asp Pro Ser
305 310 315 320

Asn Phe Asp Thr Leu Ala Val Val Phe Asn Arg Ser Ser Arg Phe Ala
325 330 335

Arg Leu Gln Ser Ile Arg Cys Ser Ile Ala Gly Lys Asn Leu Tyr Val
340 345 350

Arg Phe Cys Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser
355 360 365

Lys Gly Val Gln Asn Val Leu Glu Phe Leu Gln His Asp Phe Ser Asp
370 375 380

Met Glu Val Ile Gly Ile Ser Gly Asn Phe Cys Ala Asp Lys Lys Pro
385 390 395 400

Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu
405 410 415

Ala Val Ile Lys Asp Glu Val Val Arg Lys Val Leu Lys Thr Ser Val
420 425 430

Ala Ser Leu Val Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala
435 440 445

Met Ala Gly Ala Leu Gly Gly Phe Asn Ala His Ser Ser Asn Ile Val
450 455 460

Ser Ala Ile Phe Leu Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu
465 470 475 480

Ser Ser His Cys Ile Thr Met Met Glu Pro Val Asn Asn Gly Arg Asp
485 490 495

Leu His Ile Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly
500 505 510

Gly Gly Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly
515 520 525

Val Lys Gly Ala Ser Lys Glu Ser Pro Gly Ala Asn Ser Arg Leu Leu
530 535 540

Ala Thr Ile Val Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu Met
545 550 555 560

Ser Ala Ile Ala Ala Gly Gln Leu Val Arg Ser His Met Lys Tyr Asn
565 570 575

Arg Ser Ser Arg Asp Val Ser Lys Leu Glu Ser
580 585

<210> 187
<211> 121
<212> PRT
<213> Glycine max

<400> 187

Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Ile Lys Glu Glu
1 5 10 15

Val Val Gln Lys Val Leu Lys Thr Asn Val Ser Ala Leu Val Glu Leu
20 25 30

Asn Met Leu Lys Asn Leu Ala Gly Ser Ala Val Ala Gly Ala Leu Gly
35 40 45

Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser Ala Ile Phe Ile Ala
50 55 60

Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser His Cys Ile Thr
65 70 75 80

Met Met Glu Ala Ile Asn Asp Gly Arg Asp Leu His Ile Ser Val Thr
85 90 95

Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala
100 105 110

Ser Gln Ser Ala Cys Leu Asn Leu Leu

115

120

<210> 188
 <211> 236
 <212> PRT
 <213> Schistosoma mansoni

<400> 188

Met Leu Lys Ile Leu Asn Thr Val Leu Leu Phe Phe Asp Cys Phe Ser
 1 5 10 15

Thr Gly Thr Phe Phe Val Leu Leu Ile Tyr Leu Phe Thr Arg Leu Arg
 20 25 30

Thr His Leu Leu His Phe Ser Ser Ser Asn Cys His Leu Asp Val Ile
 35 40 45

Ile Tyr Gln Ser Arg Ala Val Ile Ile Phe Leu Val Val Phe Val Tyr
 50 55 60

Phe Ile Gly Val Leu Thr Cys Lys Ile Asn Asp Lys Ile Leu Val His
 65 70 75 80

Thr Met Leu Arg Asn Lys Arg Gln Leu Asn Thr Leu Phe Tyr Thr Leu
 85 90 95

Ile Leu Phe Thr Phe Ala Leu Cys Ser Leu Ser Ser Val Leu Phe Val
 100 105 110

Pro Tyr Thr Ser Phe Ala Ile Phe Leu Leu Ser Thr Ser Val Phe Leu
 115 120 125

Leu Phe Ser Asp Leu Ser Val Phe Phe Ile Val Leu Glu Tyr Tyr Leu
 130 135 140

Leu Glu Ile Glu Leu Val Asn Tyr Glu His Ala Lys Arg His Cys Leu
 145 150 155 160

Leu Ser His Leu Phe Ser Asn Gln Leu Phe Val Asp His Met Leu Gly
 165 170 175

Met Phe Leu Lys Thr Ser Leu Phe Ser Ile Ser Thr Thr Ser Lys Tyr
 180 185 190

Ala Tyr Leu Glu Ser Ile Phe Lys Cys Thr Leu Met Glu Gln Ile Ile
 195 200 205

Tyr Ile Met Ile Val Phe Val Phe Leu Pro Ser Phe Met Arg Ile Phe
 210 215 220

Ala Ser Tyr Ala Lys Arg Met Tyr Gly Glu Gln Lys
 225 230 235

<210> 189
 <211> 18
 <212> PRT
 <213> Solanum tuberosum

<400> 189

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Pro Ser Glu His
 1 5 10 15

Ile Ser

<210> 190
 <211> 59
 <212> PRT
 <213> Solanum tuberosum

<400> 190

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
 1 5 10 15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
 20 25 30

Ser Tyr Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
 35 40 45

Thr Met Phe Ser Leu Leu Cys Ile Phe Phe Ser
 50 55

<210> 191
 <211> 82
 <212> PRT
 <213> Solanum tuberosum

<400> 191

Met Asp Val Cys Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
 1 5 10 15

Ala Phe Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
 20 25 30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
35 40 45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
50 55 60

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65 70 75 80

Leu Ala

<210> 192
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 192

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1 5 10 15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
20 25 30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
35 40 45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
50 55 60

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65 70 75 80

Leu Ala

<210> 193
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 193

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1 5 10 15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
20 25 30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Arg Leu Phe Phe
35 40 45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
50 55 60

Lys Ile Arg Asn Ser Ile Pro Phe His Val Val Thr Leu Ser Glu Leu
65 70 75 80

Leu Ala

<210> 194
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 194

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1 5 10 15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
20 25 30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
35 40 45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
50 55 60

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65 70 75 80

Leu Ala

<210> 195
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 195

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1 5 10 15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala

Gly Leu Ser Thr Leu Val Ser Ser Phe Phe Ala Phe Leu Phe Ala Leu
 145 150 155 160

Tyr Ile Thr Thr Arg Val Leu Asp Leu Ser Ile Pro Phe Leu Ser Leu
 165 170 175

Ser Glu Gly Ile Pro Phe Phe Val Ala Val Val Gly Phe Asn Asn Lys
 180 185 190

Ile Leu Leu Ala Glu Lys Val Leu Gln Asn Gln Leu Asn Ala Gln Ser
 195 200 205

Ser Lys Asn Asp Ala Pro Thr Val Leu Tyr Gln Ala Leu Arg Glu Gln
 210 215 220

Gly Pro Leu Leu Leu Arg Asp His Leu Phe Met Ile Thr Ala Phe Leu
 225 230 235 240

Gly Cys Ser Phe Tyr Ala Ser Tyr Leu Asp Gly Leu Lys Asn Phe Cys
 245 250 255

Ile Leu Ala Ala Leu Ile Leu Ala Phe Asp Ile Leu Thr Thr Ser Thr
 260 265 270

Phe Leu Ser Ala Ile Leu Ser Leu Lys Leu Glu Ile Asn Gln Ile His
 275 280 285

Arg Ser Thr Leu Leu Arg Glu Gln Leu Glu Asp Asp Gly Leu Thr Glu
 290 295 300

Thr Thr Val Asp Asp Val Leu Lys Ser Asn Ser Leu Ala Gly Thr Lys
 305 310 315 320

Thr Phe Thr Asp Ala Pro Ser Thr Leu Val Thr Val Ala Lys Val Ala
 325 330 335

Gly Val Ser Val Phe Phe Gly Leu His Phe Tyr Gly Phe Gly Ser Ala
 340 345 350

Trp Leu Ser Asp Leu Ser Ala Gly Asn Glu Thr Asn Asp Thr Phe Thr
 355 360 365

Leu Tyr Asp Ala Val Ala Asp Gln Ile Pro Ile Gly Ser Asn Gly Thr
 370 375 380

Leu Val Thr Leu Phe Pro Thr Arg Phe Phe Leu Pro Glu Lys Leu Ser
 385 390 395 400

Thr Gln Ile Glu Ala Val Val Leu Ser Phe Ile Gly Leu Ile Ser Thr
 405 410 415

Ala Ala Arg Asp Lys Tyr Ile Ser Lys Phe Ile Leu Phe Ala Phe Ala
 420 425 430

Val Ser Ala Ser Ile Asn Val Tyr Leu Leu Asn Val Ala Arg Ile His
 435 440 445

Thr Thr Arg Leu Glu Asp Ala Ile Glu Leu Lys Lys Pro Lys Lys Lys
 450 455 460

Ala Ser Lys Thr Ala Val Ser Val Pro Lys Ala Val Val Val Lys Asp
 465 470 475 480

Ser Glu Thr Thr Lys Ser Ser Glu Ile Leu His Ser Ser Ser Glu Ser
 485 490 495

Glu Ser Glu Gln Ser Ser Arg Pro Leu Glu Gln Val Ile Glu Leu Tyr
 500 505 510

Lys Asp Gly Lys Val Lys Thr Leu Val Asp Asp Glu Val Val Ser Leu
 515 520 525

Val Thr Ala Gly Lys Leu Pro Leu Tyr Ala Leu Glu Lys Gln Leu Gly
 530 535 540

Asp Asn Leu Arg Ala Val Ala Ile Arg Arg Lys Ala Ile Ser Asp Leu
 545 550 555 560

Ala Asp Ala Pro Val Leu Arg Ser Asn Lys Leu Pro Tyr Leu His Tyr
 565 570 575

Asp Tyr Asp Arg Val Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr
 580 585 590

Met Pro Leu Pro Val Gly Val Ala Gly Pro Leu Ile Ile Asp Gly Lys
 595 600 605

Pro Tyr His Ile Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser
 610 615 620

Ala Met Arg Gly Cys Lys Ala Ile Asn Leu Gly Gly Gly Val Thr Thr

625		630		635		640									
Val	Leu	Thr	Lys	Asp	Gly	Met	Thr	Arg	Gly	Pro	Cys	Val	Lys	Phe	Pro
				645					650					655	
Ser	Leu	Lys	Arg	Ala	Gly	Gln	Cys	Lys	Leu	Trp	Leu	Asp	Ser	Asp	Glu
			660					665					670		
Gly	Gln	Glu	Glu	Met	Lys	Lys	Ala	Phe	Asn	Ser	Thr	Ser	Arg	Phe	Ala
		675					680					685			
Arg	Leu	Gln	His	Leu	Gln	Thr	Ala	Leu	Ala	Gly	Asp	Leu	Leu	Phe	Ile
	690					695					700				
Arg	Phe	Arg	Thr	Val	Thr	Gly	Asp	Ala	Met	Gly	Met	Asn	Met	Ile	Ser
705					710					715					720
Lys	Gly	Val	Glu	Tyr	Ala	Leu	Lys	Gln	Met	Thr	Glu	Val	Phe	Gly	Trp
				725					730					735	
Asp	Asp	Met	Met	Val	Val	Ser	Val	Ser	Gly	Asn	Tyr	Cys	Thr	Asp	Lys
			740					745					750		
Lys	Pro	Ala	Ala	Val	Asn	Trp	Ile	Asn	Gly	Arg	Gly	Lys	Ser	Val	Val
		755					760					765			
Ala	Glu	Ala	Ser	Ile	Pro	Lys	Asp	Ala	Val	Val	Lys	Val	Leu	Lys	Ser
	770					775					780				
Ser	Val	Lys	Ala	Val	Val	Asp	Val	Asn	Val	Asn	Lys	Asn	Leu	Ile	Gly
785					790					795					800
Ser	Ala	Met	Ala	Gly	Ser	Val	Gly	Gly	Phe	Asn	Ala	Gln	Ala	Ala	Asn
				805					810					815	
Met	Val	Thr	Ala	Val	Tyr	Leu	Ala	Leu	Gly	Gln	Asp	Pro	Ala	Gln	Asn
			820					825					830		
Val	Glu	Ser	Ser	Asn	Cys	Ile	Thr	Leu	Met	Thr	Glu	Thr	Glu	Asp	Gly
		835					840					845			
Asp	Leu	Lys	Val	Ser	Val	Ser	Met	Pro	Ser	Ile	Glu	Val	Gly	Thr	Ile
	850					855					860				
Gly	Gly	Gly	Thr	Ile	Leu	Asp	Pro	Gln	Gly	Ser	Met	Leu	Glu	Leu	Leu
865					870					875					880

Gly Val Arg Gly Pro Ala Asp Val Pro Gly Glu Asn Ala Arg Gln Leu
885 890 895

Ala Lys Ile Val Ala Ser Ile Val Leu Ser Gly Glu Leu Ser Leu Val
900 905 910

Ser Ala Leu Ala Ala Gly His Leu Val Gln Ser His Met Gln His Asn
915 920 925

Arg Ala Ala Ala Lys Lys
930

<210> 197
<211> 628
<212> PRT
<213> Gossypium hirsutum

<400> 197

Met Glu Ala Ser Arg Arg Ser Ala Val Lys Pro Val Ile Val Leu Lys
1 5 10 15

Pro Ser Lys Arg Phe Pro Leu Val Glu Asp Thr Pro Gly Lys Ala Ser
20 25 30

Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr
35 40 45

Leu Phe Phe Thr Val Val Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys
50 55 60

Ile Arg Ala Ser Ile Pro Leu His Ala Val Thr Phe Pro Glu Ile Val
65 70 75 80

Ala Ile Phe Ala Phe Val Ala Ser Leu Ile Tyr Leu Leu Gly Phe Phe
85 90 95

Gly Ile Asp Phe Val Gln Ser Leu Ile Ile Arg Pro Ser Gly Asp Val
100 105 110

Trp Ser Gly Glu Asp Tyr Glu Glu Glu Asn Glu Val Leu Leu His Glu
115 120 125

Glu Asp Ala Arg Thr Val Pro Cys Gly Gln Ala Leu Asp Cys Ser Val
130 135 140

Pro Ser Leu Pro His Met Ala Arg Asn Val Thr Ala Gln Arg Leu Phe
 145 150 155 160
 Asp Glu Lys Pro Val Arg Val Ala Thr Glu Glu Asp Ala Arg Lys Val
 165 170 175
 Ser Cys Gly Gln Ala Val Asp Cys Ser Leu His Ser Leu Pro Pro Arg
 180 185 190
 Pro Pro Ile Val Thr Ser Gln Lys Leu Phe His Glu Lys Thr Val Ile
 195 200 205
 Val Thr Thr Glu Glu Asp Glu Glu Ile Ile Lys Ser Val Val Ala Gly
 210 215 220
 Thr Leu Pro Ser Tyr Ser Leu Glu Ser Lys Leu Gly Asp Cys Lys Arg
 225 230 235 240
 Ala Ala Ala Ile Arg Arg Glu Ala Leu Gln Arg Leu Thr Gly Arg Ser
 245 250 255
 Leu Ser Gly Leu Pro Leu Asp Gly Phe Asp Tyr Glu Ser Ile Leu Gly
 260 265 270
 Gln Cys Cys Glu Met Pro Val Gly Tyr Val Gln Ile Pro Val Gly Ile
 275 280 285
 Ala Gly Pro Leu Leu Leu Asn Gly Arg Glu Tyr Ser Val Pro Met Ala
 290 295 300
 Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala
 305 310 315 320
 Ile His Leu Ser Gly Gly Ala Thr Ser Ile Leu Leu Lys Asp Gly Met
 325 330 335
 Thr Arg Ala Pro Val Val Arg Phe Ser Thr Ala Lys Arg Ala Ala Glu
 340 345 350
 Leu Lys Phe Tyr Leu Glu Asp Pro Glu Asn Phe Asp Thr Leu Ala Val
 355 360 365
 Val Phe Asn Arg Ser Ser Arg Phe Gly Arg Leu Gln Ser Ile Lys Cys
 370 375 380
 Ala Ile Ala Gly Lys Asn Leu Tyr Leu Arg Phe Thr Cys Ser Thr Gly

385		390		395		400									
Asp	Ala	Met	Gly	Met	Asn	Met	Val	Ser	Lys	Gly	Val	Gln	Asn	Val	Leu
			405						410					415	
Asp	Phe	Leu	Gln	Thr	Asp	Phe	Pro	Asp	Met	Asp	Val	Ile	Gly	Ile	Ser
			420					425					430		
Gly	Asn	Phe	Cys	Ser	Asp	Lys	Lys	Pro	Ala	Ala	Val	Asn	Trp	Ile	Glu
		435					440					445			
Gly	Arg	Gly	Lys	Ser	Val	Val	Cys	Glu	Ala	Ile	Ile	Glu	Gly	Asp	Val
	450					455					460				
Val	Arg	Lys	Val	Leu	Lys	Thr	Ser	Val	Glu	Ser	Leu	Val	Glu	Leu	Asn
465					470					475					480
Met	Leu	Lys	Asn	Leu	Thr	Gly	Ser	Ala	Met	Ala	Gly	Ala	Leu	Gly	Gly
			485						490					495	
Phe	Asn	Ala	His	Ala	Ser	Asn	Ile	Val	Thr	Ala	Ile	Tyr	Ile	Ala	Thr
			500					505					510		
Gly	Gln	Asp	Pro	Ala	Gln	Asn	Val	Glu	Ser	Ser	His	Cys	Ile	Thr	Met
		515					520					525			
Met	Glu	Ala	Val	Asn	Asp	Gly	Lys	Asp	Leu	His	Ile	Ser	Val	Thr	Met
	530					535					540				
Pro	Ser	Ile	Glu	Val	Gly	Thr	Val	Gly	Gly	Gly	Thr	Gln	Leu	Ala	Ser
545					550					555					560
Gln	Ser	Ala	Cys	Leu	Asn	Leu	Leu	Gly	Val	Lys	Gly	Ala	Ser	Lys	Asp
			565						570					575	
Val	Ala	Gly	Ala	Asn	Ser	Arg	Met	Leu	Ala	Thr	Ile	Val	Thr	Gly	Ala
			580					585					590		
Val	Leu	Ala	Gly	Glu	Leu	Ser	Leu	Met	Ser	Ala	Leu	Ala	Ala	Gly	Gln
		595					600					605			
Leu	Val	Lys	Ser	His	Met	Lys	Tyr	Asn	Arg	Ser	Ser	Lys	Asp	Met	Ser
	610					615					620				
Asn	Leu	Ser	Ser												
625															

<210> 198
 <211> 585
 <212> PRT
 <213> *Gossypium hirsutum*

<400> 198

Met Glu Thr His Arg Arg Ser Ser Thr Asn Ser Ile Arg Ser His Lys
 1 5 10 15

Pro Ala Arg Pro Ile Ala Leu Glu Asp Asp Ser Thr Lys Ala Ser Asp
 20 25 30

Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr Leu
 35 40 45

Phe Phe Ser Ala Val Tyr Phe Leu Leu Cys Arg Trp Arg Glu Lys Ile
 50 55 60

Arg Ser Ser Thr Pro Leu His Val Val Thr Phe Ser Glu Ile Val Ala
 65 70 75 80

Ile Leu Ala Ser Val Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe Gly
 85 90 95

Ile Asp Phe Val Gln Ser Leu Val Leu Arg Pro Ser Ala Asp Val Trp
 100 105 110

Ala Thr Glu Asp Asp Glu Val Glu Ser Glu Val Leu Leu Arg Asn Glu
 115 120 125

Asp Ala Arg His Val Pro Cys Gly Gln Ala Leu Asp Arg Ser Ile Arg
 130 135 140

Ser Leu Gln Pro Pro Glu Pro Ile Val Thr Ala Glu Lys Val Phe Asp
 145 150 155 160

Glu Met Pro Val Thr Val Met Thr Glu Glu Asp Glu Glu Ile Ile Arg
 165 170 175

Ser Val Val Cys Gly Met Thr Pro Ser Tyr Ser Leu Glu Ser Lys Leu
 180 185 190

Asp Asp Cys Lys Arg Ala Ala Ala Ile Arg Arg Glu Ala Leu Gln Arg
 195 200 205

Ile Thr Gly Lys Ser Leu Ser Gly Leu Pro Leu Asp Gly Phe Asp Tyr
 210 215 220
 Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Pro Val Gly Tyr Glu Gln
 225 230 235 240
 Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asn Gly Arg Glu Tyr
 245 250 255
 Ser Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn
 260 265 270
 Arg Gly Cys Lys Ala Ile His Leu Ser Gly Gly Ala Thr Ser Val Leu
 275 280 285
 Leu Arg Asp Gly Met Thr Arg Ala Pro Val Val Arg Phe Gly Thr Ala
 290 295 300
 Lys Arg Ala Ala Asp Leu Lys Leu Tyr Leu Glu Asp Pro Glu Asn Phe
 305 310 315 320
 Glu Thr Leu Ala Cys Val Phe Asn Arg Ser Ser Arg Phe Ala Arg Leu
 325 330 335
 Gln Ser Ile Lys Cys Ala Ile Ala Gly Lys Asn Leu Tyr Leu Arg Phe
 340 345 350
 Ser Cys Phe Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly
 355 360 365
 Val Gln Asn Val Leu Asp Phe Leu Gln Thr Asp Phe Pro Asp Met Asp
 370 375 380
 Val Ile Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala
 385 390 395 400
 Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile
 405 410 415
 Ile Asn Gly Asp Val Val Thr Lys Val Leu Lys Thr Ser Val Glu Ser
 420 425 430
 Leu Val Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala Met Ala
 435 440 445
 Gly Ala Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Thr Ala

450	455	460
Val Tyr Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser		
465	470	475 480
His Cys Ile Thr Met Met Glu Ala Val Asn Gly Gly Lys Asp Leu His		
	485	490 495
Val Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly		
	500	505 510
Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys		
	515	520 525
Gly Ala Ser Lys Glu Ser Pro Gly Ala Asn Ser Ile Leu Leu Ala Thr		
	530	535 540
Ile Val Ala Gly Ala Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala		
545	550	555 560
Leu Ala Ala Gly Gln Leu Val Lys Ser His Met Lys Tyr Asn Arg Ser		
	565	570 575
Ser Lys Asp Val Ser Lys Val Ser Ser		
	580	585
<210> 199		
<211> 1045		
<212> PRT		
<213> Saccharomyces cerevisiae		
<400> 199		
Met Ser Leu Pro Leu Lys Thr Ile Val His Leu Val Lys Pro Phe Ala		
1	5	10 15
Cys Thr Ala Arg Phe Ser Ala Arg Tyr Pro Ile His Val Ile Val Val		
	20	25 30
Ala Val Leu Leu Ser Ala Ala Ala Tyr Leu Ser Val Thr Gln Ser Tyr		
	35	40 45
Leu Asn Glu Trp Lys Leu Asp Ser Asn Gln Tyr Ser Thr Tyr Leu Ser		
	50	55 60
Ile Lys Pro Asp Glu Leu Phe Glu Lys Cys Thr His Tyr Tyr Arg Ser		
65	70	75 80

Pro Val Ser Asp Thr Trp Lys Leu Leu Ser Ser Lys Glu Ala Ala Asp
85 90 95

Ile Tyr Thr Pro Phe His Tyr Tyr Leu Ser Thr Ile Ser Phe Gln Ser
100 105 110

Lys Asp Asn Ser Thr Thr Leu Pro Ser Leu Asp Asp Val Ile Tyr Ser
115 120 125

Val Asp His Thr Arg Tyr Leu Leu Ser Glu Glu Pro Lys Ile Pro Thr
130 135 140

Glu Leu Val Ser Glu Asn Gly Thr Lys Trp Arg Leu Arg Asn Asn Ser
145 150 155 160

Asn Phe Ile Leu Asp Leu His Asn Ile Tyr Arg Asn Met Val Lys Gln
165 170 175

Phe Ser Asn Lys Thr Ser Glu Phe Asp Gln Phe Asp Leu Phe Ile Ile
180 185 190

Leu Ala Ala Tyr Leu Thr Leu Phe Tyr Thr Leu Cys Cys Leu Phe Asn
195 200 205

Asp Met Arg Lys Ile Gly Ser Lys Phe Trp Leu Ser Phe Ser Ala Leu
210 215 220

Ser Asn Ser Ala Cys Ala Leu Tyr Leu Ser Leu Tyr Thr Thr His Ser
225 230 235 240

Leu Leu Lys Lys Pro Ala Ser Leu Leu Ser Leu Val Ile Gly Leu Pro
245 250 255

Phe Ile Val Val Ile Ile Gly Phe Lys His Lys Val Arg Leu Ala Ala
260 265 270

Phe Ser Leu Gln Lys Phe His Arg Ile Ser Ile Asp Lys Lys Ile Thr
275 280 285

Val Ser Asn Ile Ile Tyr Glu Ala Met Phe Gln Glu Gly Ala Tyr Leu
290 295 300

Ile Arg Asp Tyr Leu Phe Tyr, Ile Ser Ser Phe Ile Gly Cys Ala Ile
305 310 315 320

Tyr Ala Arg His Leu Pro Gly Leu Val Asn Phe Cys Ile Leu Ser Thr
 325 330 335

Phe Met Leu Val Phe Asp Leu Leu Leu Ser Ala Thr Phe Tyr Ser Ala
 340 345 350

Ile Leu Ser Met Lys Leu Glu Ile Asn Ile Ile His Arg Ser Thr Val
 355 360 365

Ile Arg Gln Thr Leu Glu Glu Asp Gly Val Val Pro Thr Thr Ala Asp
 370 375 380

Ile Ile Tyr Lys Asp Glu Thr Ala Ser Glu Pro His Phe Leu Arg Ser
 385 390 395 400

Asn Val Ala Ile Ile Leu Gly Lys Ala Ser Val Ile Gly Leu Leu Leu
 405 410 415

Leu Ile Asn Leu Tyr Val Phe Thr Asp Lys Leu Asn Ala Thr Ile Leu
 420 425 430

Asn Thr Val Tyr Phe Asp Ser Thr Ile Tyr Ser Leu Pro Asn Phe Ile
 435 440 445

Asn Tyr Lys Asp Ile Gly Asn Leu Ser Asn Gln Val Ile Ile Ser Val
 450 455 460

Leu Pro Lys Gln Tyr Tyr Thr Pro Leu Lys Lys Tyr His Gln Ile Glu
 465 470 475 480

Asp Ser Val Leu Leu Ile Ile Asp Ser Val Ser Asn Ala Ile Arg Asp
 485 490 495

Gln Phe Ile Ser Lys Leu Leu Phe Phe Ala Phe Ala Val Ser Ile Ser
 500 505 510

Ile Asn Val Tyr Leu Leu Asn Ala Ala Lys Ile His Thr Gly Tyr Met
 515 520 525

Asn Phe Gln Pro Gln Ser Asn Lys Ile Asp Asp Leu Val Val Gln Gln
 530 535 540

Lys Ser Ala Thr Ile Glu Phe Ser Glu Thr Arg Ser Met Pro Ala Ser
 545 550 555 560

Ser Gly Leu Glu Thr Pro Val Thr Ala Lys Asp Ile Ile Ile Ser Glu

Tyr Ser Leu Lys Gln Met Val Glu Glu Tyr Gly Trp Glu Asp Met Glu
820 825 830

Val Val Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala
835 840 845

Ile Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Ala Glu Ala Thr
850 855 860

Ile Pro Gly Asp Val Val Lys Ser Val Leu Lys Ser Asp Val Ser Ala
865 870 875 880

Leu Val Glu Leu Asn Ile Ser Lys Asn Leu Val Gly Ser Ala Met Ala
885 890 895

Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn Leu Val Thr Ala
900 905 910

Leu Phe Leu Ala Leu Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser
915 920 925

Asn Cys Ile Thr Leu Met Lys Glu Val Asp Gly Asp Leu Arg Ile Ser
930 935 940

Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly Gly Gly Thr Val
945 950 955 960

Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly Val Arg Gly Pro
965 970 975

His Pro Thr Glu Pro Gly Ala Asn Ala Arg Gln Leu Ala Arg Ile Ile
980 985 990

Ala Cys Ala Val Leu Ala Gly Glu Leu Ser Leu Cys Ser Ala Leu Ala
995 1000 1005

Ala Gly His Leu Val Gln Ser His Met Thr His Asn Arg Lys Thr
1010 1015 1020

Asn Lys Ala Asn Glu Leu Pro Gln Pro Ser Asn Lys Gly Pro Pro
1025 1030 1035

Cys Lys Thr Ser Ala Leu Leu
1040 1045

<210> 200
 <211> 410
 <212> PRT
 <213> Streptomyces carbophilus

<400> 200

Met Thr Glu Met Thr Glu Lys Ala Thr Thr Phe Leu Thr Ser Gln Glu
 1 5 10 15

Ala Pro Ala Phe Pro Ala Asp Arg Thr Cys Pro Tyr Gln Leu Pro Thr
 20 25 30

Ala Tyr Ser Arg Leu Arg Asp Glu Pro Asp Ala Leu Arg Pro Val Thr
 35 40 45

Leu Tyr Asp Gly Arg Arg Ala Trp Val Val Thr Lys His Glu Ala Ala
 50 55 60

Arg Arg Leu Leu Ala Asp Pro Arg Leu Ser Ser Asp Arg Leu His Ala
 65 70 75 80

Asp Phe Pro Ala Thr Ser Pro Arg Phe Lys Ala Phe Arg Gln Gly Ser
 85 90 95

Pro Ala Phe Ile Gly Met Asp Pro Pro Glu His Gly Thr Arg Arg Arg
 100 105 110

Met Thr Ile Ser Glu Phe Thr Val Lys Arg Ile Lys Gly Met Arg Pro
 115 120 125

Asp Val Glu Arg Ile Val His Gly Phe Ile Asp Asp Met Leu Ala Ala
 130 135 140

Gly Pro Thr Ala Asp Leu Val Ser Gln Phe Ala Leu Pro Val Pro Ser
 145 150 155 160

Met Val Ile Cys His Met Leu Gly Val Pro Tyr Ala Asp His Glu Phe
 165 170 175

Phe Gln Asp Ala Ser Lys Arg Leu Val Gln Ala Val Asp Ala Asp Ser
 180 185 190

Ala Val Ala Ala Arg Asp Asp Phe Glu Arg Tyr Leu Asp Gly Leu Ile
 195 200 205

Thr Lys Leu Glu Ser Glu Pro Gly Thr Gly Leu Leu Gly Lys Leu Val

210	215	220
Thr His Gln Leu Ala Asp Gly Glu Ile Asp Arg Ala Glu Leu Ile Ser		
225	230	235 240
Thr Ala Leu Leu Leu Leu Val Ala Gly His Glu Thr Thr Ala Ser Met		
	245	250 255
Thr Ser Leu Ser Val Ile Thr Leu Leu Glu His Pro Asp Gln His Ala		
	260	265 270
Ala Leu Arg Ala Asp Pro Ser Leu Val Pro Gly Ala Val Glu Glu Leu		
	275	280 285
Leu Arg Val Leu Ala Ile Ala Asp Ile Ala Gly Gly Arg Ile Ala Thr		
	290	295 300
Ala Asp Ile Glu Ile Asp Gly Gln Leu Ile Arg Ala Gly Glu Gly Val		
305	310	315 320
Ile Val Thr Asn Ser Ile Ala Asn Arg Asp Ser Ser Val Phe Glu Asn		
	325	330 335
Pro Asp Arg Leu Asp Val His Arg Ser Ala Arg His His Leu Ser Phe		
	340	345 350
Gly Tyr Gly Val His Gln Cys Leu Gly Gln Asn Leu Ala Arg Leu Glu		
	355	360 365
Leu Glu Val Ile Leu Thr Val Leu Phe Asp Arg Ile Pro Thr Leu Arg		
	370	375 380
Leu Ala Val Pro Val Glu Gln Leu Thr Leu Arg Pro Gly Thr Thr Ile		
385	390	395 400
Gln Gly Val Asn Glu Leu Pro Val Thr Trp		
	405	410

<210> 201
 <211> 574
 <212> PRT
 <213> Solanum tuberosum

<400> 201

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Pro Ser Glu His
1 5 10 15

Ile Ser Ser Gly Glu Pro Leu Lys Pro His Asn Gln Asp Ser Ser Val
 20 25 30
 Lys Ala Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Gly Leu
 35 40 45
 Phe Phe Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu His Arg Trp
 50 55 60
 Arg Glu Lys Ile Arg Asn Gly Ile Pro Leu His Val Leu Asn Phe Ser
 65 70 75 80
 Glu Leu Val Ala Met Val Ser Leu Ile Ala Ser Val Ile Tyr Leu Leu
 85 90 95
 Gly Phe Phe Gly Ile Gly Phe Val Gln Ser Phe Val Ser Lys Gly Asn
 100 105 110
 Asn Asp Ser Trp Asp Val Glu Asp Glu Ser Pro Glu Gln Phe Ile Asp
 115 120 125
 Arg Thr Val Thr Pro Pro Pro Val Arg Arg Asn Ile Pro Met Lys Ser
 130 135 140
 Val Pro Val Ala Glu Lys Thr Ala Gln Ile Ile Thr Pro Phe Ser Ser
 145 150 155 160
 Glu Asp Asp Glu Val Val Ile Lys Ser Val Val Glu Gly Arg Ile Pro
 165 170 175
 Ser Tyr Ser Leu Glu Ser Lys Leu Gly Asp Cys Lys Arg Ala Ala Phe
 180 185 190
 Ile Arg Lys Glu Ala Leu Gln Arg Ser Ser Gly Lys Ser Leu Glu Gly
 195 200 205
 Leu Pro Leu Asp Gly Phe Asp Tyr Glu Ser Ile Leu Gly Gln Cys Cys
 210 215 220
 Glu Met Pro Ile Gly Tyr Ile Gln Ile Pro Val Gly Ile Ala Gly Pro
 225 230 235 240
 Leu Leu Leu Asn Gly Lys Glu Phe Ser Val Pro Met Ala Thr Thr Glu
 245 250 255

Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala Ile Tyr Val
 260 265 270
 Ser Gly Gly Ala Thr Ser Val Leu Phe Arg Asp Ala Met Thr Arg Ala
 275 280 285
 Pro Val Val Arg Phe Gly Ser Ala Lys Arg Ala Ala Glu Leu Lys Phe
 290 295 300
 Phe Val Glu Asp Pro Met Asn Phe Glu Thr Leu Ser Val Val Phe Asn
 305 310 315 320
 Lys Ser Ser Arg Phe Ala Arg Leu Gln Asn Ile Gln Cys Ala Ile Ala
 325 330 335
 Gly Lys Asn Leu Tyr Met Arg Phe Ser Cys Ser Thr Gly Asp Ala Met
 340 345 350
 Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val Leu Asp Tyr Leu
 355 360 365
 Gln Asn Glu Tyr Pro Asp Met Asp Ile Ile Gly Ile Ser Gly Asn Tyr
 370 375 380
 Cys Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly
 385 390 395 400
 Lys Ser Val Val Cys Glu Ala Ile Ile Lys Glu Asp Val Val Lys Lys
 405 410 415
 Val Leu Lys Thr Glu Val Ala Thr Leu Val Glu Leu Asn Met Leu Lys
 420 425 430
 Asn Leu Thr Gly Ser Ala Met Ala Gly Ala Leu Gly Gly Phe Asn Ala
 435 440 445
 His Ala Ser Asn Ile Val Ser Ala Val Tyr Leu Ala Thr Gly Gln Asp
 450 455 460
 Pro Ala Gln Asn Ile Glu Ser Ser His Cys Ile Thr Met Met Glu Ala
 465 470 475 480
 Val Asn Asp Gly Lys Asp Leu His Ile Ser Val Thr Met Pro Ser Ile
 485 490 495
 Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ser Ala

500	505	510
Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Asn Arg Glu Ala Pro Gly		
515	520	525
Ser Asn Ala Arg Leu Leu Ala Thr Ile Val Ala Gly Ser Val Leu Ala		
530	535	540
Gly Glu Leu Ser Leu Met Ser Ala Ile Ser Ala Gly Gln Leu Val Lys		
545	550	555
Ser His Met Lys Tyr Asn Arg Ser Cys Lys Asp Val Thr Lys		
565	570	
<210> 202		
<211> 595		
<212> PRT		
<213> Solanum tuberosum		
<400> 202		
Met Asp Val Arg Arg Arg Ser Glu Lys Pro Val Tyr Pro Ser Lys Val		
1	5	10
Phe Gly Ala Asp Glu Lys Pro Leu Lys Pro His Asn Asn Gln Gln Gln		
20	25	30
Glu Asp Asn Asn Thr Leu Leu Ile Asp Ala Ser Asp Ala Leu Pro Leu		
35	40	45
Pro Leu Tyr Leu Thr Asn Gly Leu Phe Phe Thr Met Phe Phe Ser Val		
50	55	60
Met Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys Ile Arg Asn Ser Thr		
65	70	75
Pro Leu His Val Val Thr Leu Ser Glu Leu Gly Ala Ile Val Ser Leu		
85	90	95
Ile Ala Ser Val Ile Tyr Leu Leu Gly Phe Phe Gly Ile Gly Phe Val		
100	105	110
Gln Thr Phe Val Ser Arg Gly Asn Asn Asp Ser Trp Asp Glu Asn Asp		
115	120	125
Glu Glu Phe Leu Leu Lys Glu Asp Ser Arg Cys Gly Pro Ala Thr Thr		
130	135	140

Leu Gly Cys Ala Ile Pro Ala Pro Pro Ala Arg Gln Ile Ser Pro Met
 145 150 155 160

Ala Pro Pro Gln Pro Ala Met Ser Met Val Glu Lys Pro Ser Pro Leu
 165 170 175

Ile Thr Pro Ala Ser Ser Glu Glu Asp Glu Glu Ile Ile Asn Ser Val
 180 185 190

Val Gln Gly Lys Phe Pro Ser Tyr Ser Leu Val Ile Gln Leu Gly Asp
 195 200 205

Val Ser Ala Ala Ala Ser Leu Arg Lys Glu Val Met Gln Arg Ile Thr
 210 215 220

Gly Lys Ser Leu Glu Gly Leu Pro Leu Glu Gly Phe Thr Tyr Glu Ser
 225 230 235 240

Ile Leu Gly Gln Cys Cys Glu Met Pro Ile Gly Tyr Val Gln Ile Pro
 245 250 255

Val Gly Ile Ala Gly Pro Leu Leu Leu Asn Gly Lys Glu Phe Ser Val
 260 265 270

Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly
 275 280 285

Cys Lys Ala Ile Tyr Ala Ser Gly Gly Ala Thr Cys Ile Val Leu Arg
 290 295 300

Asp Gly Met Thr Arg Ala Pro Cys Val Arg Phe Gly Thr Ala Lys Arg
 305 310 315 320

Ala Ala Glu Leu Lys Phe Phe Val Glu Asp Pro Ile Lys Phe Glu Thr
 325 330 335

Leu Ala Asn Val Phe Asn Gln Ser Ser Arg Phe Gly Arg Leu Gln Arg
 340 345 350

Ile Gln Cys Ala Ile Ala Gly Lys Asn Leu Tyr Met Arg Phe Val Cys
 355 360 365

Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val Gln
 370 375 380

Asn Val Leu Asp Tyr Leu Gln Asn Glu Tyr Pro Asp Met Asp Val Ile
 385 390 395 400

Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala Val Asn
 405 410 415

Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Ile Thr
 420 425 430

Glu Glu Val Val Lys Lys Val Leu Lys Thr Glu Val Ala Ala Leu Val
 435 440 445

Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala Met Ala Gly Ala
 450 455 460

Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser Ala Val Phe
 465 470 475 480

Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Ile Glu Ser Ser His Cys
 485 490 495

Ile Thr Met Met Glu Ala Val Asn Asp Gly Lys Asp Leu His Ile Ser
 500 505 510

Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln
 515 520 525

Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala
 530 535 540

Asn Arg Glu Ala Pro Gly Ser Asn Ala Arg Leu Leu Ala Thr Val Val
 545 550 555 560

Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Ile Ser
 565 570 575

Ala Gly Gln Leu Val Asn Ser His Met Lys Tyr Asn Arg Ser Thr Lys
 580 585 590

Ala Ser Ser
 595

<210> 203
 <211> 1053
 <212> PRT
 <213> Schizosaccharomyces pombe

<400> 203

Met Ile Tyr Lys Leu Ala Ala Arg Tyr Pro Ile Gln Val Ile Ala Ile
1 5 10 15

Val Gly Ile Leu Val Ser Met Ala Tyr Phe Ser Phe Leu Glu Ala Leu
20 25 30

Thr Gln Glu Asp Phe Pro Val Leu Ile Arg Ala Leu Lys Arg Phe Gly
35 40 45

Ile Leu Asp Gly Phe Pro Asn Thr Arg Leu Pro Asn Glu Met Ile Leu
50 55 60

Lys Leu Ser Ser Val Gln Gly Glu Asp Ala Ser Val Trp Glu Gln Ile
65 70 75 80

Pro Ala Ala Glu Leu Gly Gly Glu Gly Phe Val Asp Phe Asp Ile Thr
85 90 95

Gln Trp Tyr Tyr Pro Ala Asn Ala Lys Val Asp Val Ala Gln Leu Val
100 105 110

Glu Pro Tyr Arg Asn Asp Cys Ile Phe His Asp Ala Ser Gly Ala Cys
115 120 125

His Phe Phe Phe Lys Glu Val Gly Asn Trp Thr Val Ser Ser Ile Ala
130 135 140

Leu Pro Ser Asn Leu Ala Asn Pro Pro Ile Asp Tyr Phe Leu Asp Ser
145 150 155 160

Ser Ser Thr Val Ile Gln Arg Ile Leu Pro Ala Ile Arg Glu His Gly
165 170 175

Ile Ser Trp Ser Trp Leu Leu Gln Leu Ile Ala Arg Thr Trp Met Asn
180 185 190

Thr Leu Lys Ile Ala Ser Gln Ala Ser Lys Thr Glu Leu Leu Ile Val
195 200 205

Gly Thr Ala Tyr Ala Cys Met Leu Ile Ser Ile Val Ser Leu Tyr Leu
210 215 220

Lys Met Arg Arg Leu Gly Ser Lys Phe Trp Leu Phe Phe Ser Val Leu
225 230 235 240

Leu Ser Thr Leu Phe Ser Val Gln Phe Ala Met Thr Leu Val Arg Ala
 245 250 255

Ser Gly Val Arg Ile Ser Leu Val Ser Leu Ile Glu Ser Leu Pro Phe
 260 265 270

Leu Ile Asn Val Val Ala Leu Asp Lys Ala Ala Glu Leu Thr Arg Gln
 275 280 285

Val Ile Thr Arg Cys Ser Val Ser Asp Ser His Ser Pro Met His Glu
 290 295 300

Asp Ile Ala Lys Ala Cys Arg Asn Ala Ala Pro Pro Ile Leu Arg His
 305 310 315 320

Phe Ser Phe Gly Ile Val Val Leu Ala Ile Phe Ser Tyr Cys Asn Phe
 325 330 335

Gly Ile Lys Gln Phe Phe Leu Phe Ala Ala Val Met Ile Tyr Asp Leu
 340 345 350

Leu Leu Leu Phe Ser Phe Phe Val Ala Ile Leu Thr Leu Lys Leu Glu
 355 360 365

Met Arg Arg Tyr Asn Ala Lys Asp Asp Val Arg Lys Val Leu Ile Glu
 370 375 380

Glu Gly Leu Ser Glu Ser Thr Ala Arg His Val Ala Asp Gly Asn Asp
 385 390 395 400

Ser Ser Ala Thr Thr Ser Ala Gly Ser Arg Tyr Phe Lys Val Arg Tyr
 405 410 415

Gly Thr Lys Ile Ile Leu Phe Ile Phe Ile Ala Phe Asn Leu Phe Glu
 420 425 430

Leu Cys Ser Ile Pro Phe Lys His Tyr Ala Ala Thr Ser Ala Ala Ala
 435 440 445

Ala Arg Leu Ile Pro Leu Val Arg Ser Gln Tyr Pro Asp Phe Lys Ser
 450 455 460

Gln Arg Leu Leu Asp Asp Gly Val Phe Asp Asp Val Leu Ser Ala Ile
 465 470 475 480

Ser Ser Met Ser Asn Ile Glu Ser Pro Ser Val Arg Leu Leu Pro Ala
 485 490 495
 Val Phe Tyr Gly Ala Glu Leu Ser Ser Thr Ser Phe Leu Ser Thr Ile
 500 505 510
 His Ser Phe Ile Asn Asn Trp Ser His Tyr Ile Ser Ala Ser Phe Leu
 515 520 525
 Ser Lys Trp Ile Val Cys Ala Leu Ser Leu Ser Ile Ala Val Asn Val
 530 535 540
 Phe Leu Leu Asn Ala Ala Arg Leu Asn Ser Ile Lys Glu Glu Pro Glu
 545 550 555 560
 Lys Lys Val Val Glu Lys Val Val Glu Val Val Lys Tyr Ile Pro Ser
 565 570 575
 Ser Asn Ser Ser Ser Ile Asp Asp Ile Gln Lys Asp Glu Ile Ala Gln
 580 585 590
 Glu Ser Val Val Arg Ser Leu Glu Glu Cys Ile Thr Leu Tyr Asn Asn
 595 600 605
 Gly Gln Ile Ser Thr Leu Asn Asp Glu Glu Val Val Gln Leu Thr Leu
 610 615 620
 Ala Lys Lys Ile Pro Leu Tyr Ala Leu Glu Arg Val Leu Lys Asp Val
 625 630 635 640
 Thr Arg Ala Val Val Ile Arg Arg Thr Val Val Ser Arg Ser Ser Arg
 645 650 655
 Thr Lys Thr Leu Glu Ser Ser Asn Cys Pro Val Tyr His Tyr Asp Tyr
 660 665 670
 Ser Arg Val Leu Asn Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro
 675 680 685
 Leu Pro Leu Gly Val Ala Gly Pro Leu Ile Ile Asp Gly Lys Pro Phe
 690 695 700
 Tyr Ile Pro Met Ala Thr Thr Glu Gly Ala Leu Val Ala Ser Thr Met
 705 710 715 720
 Arg Gly Cys Lys Ala Ile Asn Ala Gly Gly Gly Ala Val Thr Val Leu

Gly Ala His Met Thr Ser Pro Gly Asp Asn Ser Arg Gln Leu Ala Arg
 980 985 990

Val Val Ala Ala Ala Val Met Ala Gly Glu Leu Ser Leu Cys Ser Ala
 995 1000 1005

Leu Ala Ser Gly His Leu Val Lys Ser His Ile Gly Leu Asn Arg
 1010 1015 1020

Ser Ala Leu Asn Thr Pro Ala Met Asp Ser Ser Ala Lys Lys Pro
 1025 1030 1035

Ala Thr Asp Ala Leu Lys Ser Val Asn Ser Arg Val Pro Gly Arg
 1040 1045 1050

<210> 204
 <211> 856
 <212> PRT
 <213> Blattella germanica

<400> 204

Met Val Gly Arg Leu Phe Arg Ala His Gly Gln Phe Cys Ala Ser His
 1 5 10 15

Pro Trp Glu Val Ile Val Ala Thr Leu Thr Leu Thr Val Cys Met Leu
 20 25 30

Thr Val Asp Gln Arg Pro Leu Gly Leu Pro Pro Gly Trp Gly His Asn
 35 40 45

Cys Ile Thr Leu Glu Glu Tyr Asn Ala Ala Asp Met Ile Val Met Thr
 50 55 60

Leu Ile Arg Cys Val Ala Val Leu Tyr Ser Tyr Tyr Gln Phe Cys His
 65 70 75 80

Leu Gln Lys Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly Leu Phe
 85 90 95

Thr Val Phe Ser Ser Phe Val Phe Ser Ser Ser Val Ile Asn Phe Leu
 100 105 110

Gly Ser Asp Val Ser Asp Leu Lys Asp Ala Leu Phe Phe Phe Leu Leu
 115 120 125

Leu Ile Asp Leu Ser Lys Ala Thr Val Leu Ala Gln Phe Ala Leu Ser
 130 135 140

Ser Arg Ser Gln Asp Glu Val Lys His Asn Ile Ala Arg Gly Ile Ala
 145 150 155 160

Met Leu Gly Pro Thr Ile Thr Leu Asp Thr Val Val Glu Thr Leu Val
 165 170 175

Ile Gly Val Gly Met Leu Ser Gly Val Arg Arg Leu Glu Val Leu Cys
 180 185 190

Cys Phe Ala Cys Met Ser Val Ile Val Asn Tyr Val Val Phe Met Thr
 195 200 205

Phe Tyr Pro Ala Cys Leu Ser Leu Ile Leu Glu Leu Ser Arg Ser Gly
 210 215 220

Glu Ser Gly Arg Pro Ala Trp His Asp Lys Ser Leu Ile Ile Lys Ala
 225 230 235 240

Leu His Glu Glu Asp Gln Lys Pro Asn Pro Val Val Gln Arg Val Lys
 245 250 255

Val Ile Met Ser Ala Gly Leu Met Leu Val His Ala His Arg Trp Val
 260 265 270

Arg Cys Leu Ser Ile Ala Leu Trp Pro Asp Leu Thr Ser Leu Arg Tyr
 275 280 285

Phe Cys Thr His Cys Asp Thr Gly Val Ser Tyr Ser Arg Trp Ser Phe
 290 295 300

Ala Ser Glu Gly Glu Glu Leu Pro Thr Val Lys Leu Val Thr Gly Asp
 305 310 315 320

Ser Val Val Asn Ser Asn Ser Thr Asp Asp Ala Gln Leu His Tyr Tyr
 325 330 335

Ile Met Arg Trp Leu Thr Val Ser Ala Asp His Ile Val Ile Leu Ile
 340 345 350

Leu Leu Leu Ala Leu Ala Val Lys Phe Val Phe Phe Glu Thr Arg Asp
 355 360 365

Glu Leu Thr Thr Thr Arg Gly Met Asp Gly Trp Val Glu Val Ser Ser

370		375		380	
Pro Val Glu His Lys Tyr Val Gln Thr Glu Gln Pro Ser Cys Ser Ala					
385		390		395	400
Pro Glu Gln Pro Leu Glu Glu Pro Pro Ala Ser Asn Arg Ser Ile Asp					
	405		410		415
Glu Cys Leu Ser Val Cys Lys Ser Asp Val Gly Ala Gln Ala Leu Ser					
	420		425		430
Asp Cys Glu Val Met Ala Leu Val Thr Ser Gly His Ile Ala Gly Tyr					
	435		440		445
Gln Leu Glu Lys Val Val Arg Asn Pro Glu Arg Gly Val Gly Ile Arg					
	450		455		460
Arg Gln Ile Leu Thr Lys Thr Ala Asp Leu Lys Asp Ala Leu Asp Asn					
465		470		475	480
Leu Pro Tyr Lys Asn Tyr Asp Tyr Leu Lys Val Met Gly Ala Cys Cys					
	485		490		495
Glu Asn Val Ile Gly Tyr Met Pro Val Pro Val Gly Val Ala Gly Pro					
	500		505		510
Leu Asn Leu Asp Gly Arg Leu Val His Val Pro Leu Ala Thr Thr Glu					
	515		520		525
Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Met Arg Ala Leu Met Arg					
	530		535		540
Cys Gly Val Thr Ser Arg Ile Val Ala Asp Gly Met Thr Arg Gly Pro					
545		550		555	560
Val Val Arg Phe Pro Asn Ile Asp Arg Ala Ser Glu Ala Met Leu Trp					
	565		570		575
Met Gln Val Pro Tyr Asn Phe Glu Gln Ile Lys Lys Asn Phe Asp Ser					
	580		585		590
Thr Ser Arg Phe Ala Arg Leu Ser Lys Ile His Ile Arg Val Ala Gly					
	595		600		605
Arg His Leu Phe Ile Arg Phe Ile Ala Thr Thr Gly Asp Ala Met Gly					
	610		615		620

Met Asn Met Leu Ser Lys Gly Thr Glu Val Ala Leu Ala Tyr Val Gln
625 630 635 640

Gln Val Tyr Pro Asp Met Glu Ile Leu Ser Leu Ser Gly Asn Phe Cys
645 650 655

Thr Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys
660 665 670

Ser Val Val Cys Glu Ala Ile Val Pro Ala Asp Ile Ile Lys Ser Val
675 680 685

Leu Lys Thr Ser Val Gln Ala Leu Met Asp Val Asn Ile Thr Lys Asn
690 695 700

Leu Ile Gly Ser Ala Val Ala Gly Ser Ile Gly Gly Phe Asn Ala His
705 710 715 720

Ala Ala Asn Ile Val Thr Ala Ile Phe Ile Ala Thr Gly Gln Asp Pro
725 730 735

Ala Gln Asn Val Gly Ser Ser Asn Cys Met Thr Leu Met Glu Pro Trp
740 745 750

Gly Glu Asp Gly Lys Asp Leu Tyr Val Ser Cys Thr Met Pro Ser Ile
755 760 765

Glu Ile Gly Thr Ile Gly Gly Gly Thr Val Leu Pro Pro Gln Ala Ala
770 775 780

Cys Leu Asp Met Leu Gly Val Arg Gly Ala Asn Glu Met Cys Pro Gly
785 790 795 800

Glu Asn Ala Asn Thr Leu Ala Arg Ile Val Cys Gly Thr Val Leu Ala
805 810 815

Gly Glu Leu Ser Leu Met Ser Ala Leu Ala Ala Gly His Leu Val Lys
820 825 830

Ser His Met Arg His Asn Arg Ser Ser Val Ser Thr Ser Gly Ser Glu
835 840 845

Pro Ser Thr Pro Ala Cys Lys Ser
850 855

<210> 205
 <211> 277
 <212> PRT
 <213> Sphaceloma manihoticola

<400> 205

Met Ala Ala Gly Phe Pro Gly Tyr Ala Leu Glu Lys Thr Leu Glu Asp
 1 5 10 15

Lys Thr Arg Ala Val Lys Ile Arg Arg Ala Met Ile Ala Arg Thr Pro
 20 25 30

Ala Thr Thr Lys His Ser Arg Leu Leu Glu Ser Ser Asn Leu Pro Tyr
 35 40 45

Gln His Phe Asp Tyr Asp Arg Val Phe Gly Ala Cys Cys Glu Asn Val
 50 55 60

Ile Gly Tyr Met Pro Leu Pro Val Gly Val Ala Gly Pro Leu Thr Ile
 65 70 75 80

Asp Gly Glu Ser Tyr Phe Leu Pro Met Ala Thr Thr Glu Gly Val Leu
 85 90 95

Val Ala Ser Thr Ser Arg Gly Cys Lys Ala Ile Asn Ala Gly Gly Gly
 100 105 110

Ala Val Thr Val Leu Thr Ala Asp Gly Met Thr Arg Gly Pro Cys Val
 115 120 125

Gly Phe Glu Thr Leu Ala Arg Ala Ala Ala Ala Ala Lys Leu Trp Leu
 130 135 140

Asp Ser Glu Glu Gly Gln Lys Val Met Lys Asp Ala Phe Asn Ser Thr
 145 150 155 160

Ser Arg Phe Ala Arg Leu Gln Gln Leu Lys Thr Ser Leu Ala Gly Thr
 165 170 175

Tyr Val Tyr Ile Arg Phe Lys Thr Thr Thr Gly Glu Ala Met Gly Met
 180 185 190

Asn Met Ile Ser Lys Gly Val Glu Lys Ala Leu Asp Val Met Ala Lys
 195 200 205

Glu Ser Gly Phe Glu Asp Met Ala Ile Ile Ser Val Ser Gly Asn Phe

210 215 220
 Cys Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Asp Gly Arg Gly
 225 230 235 240
 Lys Ser Val Val Ala Glu Ala Ile Ile Pro Gly Asp Val Val Arg Ser
 245 250 255
 Val Leu Lys Ser Asp Val Asn Ala Leu Val Glu Leu Asn Val Ser Lys
 260 265 270
 Asn Leu Ile Gly Ser
 275

 <210> 206
 <211> 583
 <212> PRT
 <213> Raphanus sativus

 <400> 206
 Met Asp Ile Arg Arg Arg Pro Pro Lys Pro Pro Val Asn Asn Pro Asn
 1 5 10 15
 Arg Phe Ser Asn Asp Asn Asp Asp Gln Pro Arg Thr Lys Ala Ser Asp
 20 25 30
 Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr Leu
 35 40 45
 Phe Phe Ser Val Ala Tyr Tyr Leu Leu Arg Arg Trp Arg Asp Lys Ile
 50 55 60
 Arg His Ser Thr Pro Leu His Val Ile Thr Ile Thr Glu Leu Gly Ala
 65 70 75 80
 Leu Leu Ala Leu Val Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe Gly
 85 90 95
 Ile Asp Phe Val Gln Ser Phe Ile Ser Arg Ala Asp Thr Asn Asn Glu
 100 105 110
 Phe Glu Asp His Arg Leu Val Thr Cys Leu Pro Arg Gly Asp Val Glu
 115 120 125
 Val Trp Trp Cys His Val Pro Met Gln Ile Thr Ser Leu Lys Thr Thr
 130 135 140

Ala Ser Ser Arg Ala Pro Arg Gly Gly Arg Arg Val Val Asp Pro Thr
 145 150 155 160

Leu Pro Glu Glu Asp Glu Glu Ile Val Lys Ser Val Ile Arg Gly Val
 165 170 175

Ile Pro Ser Tyr Ser Leu Glu Ser Ser Leu Gly Glu Cys Lys Arg Ala
 180 185 190

Ala Ala Ile Arg Arg Glu Ala Leu Gln Arg Ile Thr Gly Arg Ser Ile
 195 200 205

Glu Gly Leu Pro Leu Glu Gly Phe Asp Tyr Glu Ser Ile Leu Gly Gln
 210 215 220

Cys Cys Glu Met Pro Val Gly Tyr Val Gln Ile Pro Val Gly Ile Ala
 225 230 235 240

Gly Pro Leu Leu Leu Asp Gly Cys Glu Tyr Ser Val Pro Met Ala Thr
 245 250 255

Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala Met
 260 265 270

Tyr Val Ser Gly Gly Gly Thr Ser Thr Val Val Lys Asp Gly Met Thr
 275 280 285

Arg Ala Pro Val Val Arg Phe Ala Ser Ala Arg Arg Ala Ser Glu Leu
 290 295 300

Lys Phe Tyr Leu Glu Asp Leu Glu Asn Phe Asp Thr Leu Ala Val Val
 305 310 315 320

Phe Asn Arg Ser Ser Arg Phe Ala Arg Leu Gln Ser Val Lys Cys Thr
 325 330 335

Leu Ala Gly Lys Asn Ala Tyr Val Arg Phe Ser Cys Ser Thr Gly Asp
 340 345 350

Ala Met Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val Leu Glu
 355 360 365

Phe Leu Thr Asp Asp Phe Pro Asp Met Asp Val Ile Gly Ile Ser Gly
 370 375 380

Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly
385 390 395 400

Arg Gly Lys Ser Val Val Cys Glu Ala Val Ile Arg Gly Glu Ile Val
405 410 415

Asn Lys Val Leu Lys Thr Ser Val Ala Ala Leu Val Glu Leu Asn Met
420 425 430

Leu Lys Asn Leu Thr Gly Ser Ala Val Ala Gly Ser Leu Gly Gly Phe
435 440 445

Asn Ala His Ala Ser Asn Ile Val Ser Ala Val Phe Ile Ala Thr Gly
450 455 460

Gln Asp Pro Ala Gln Asn Val Glu Leu Ser Gln Cys Ile Thr Met Met
465 470 475 480

Glu Ala Val Asn Asp Gly Lys Asp Ile His Val Ser Val Thr Met Pro
485 490 495

Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln
500 505 510

Ser Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Ser Thr Glu Ser
515 520 525

Pro Gly Met Asn Ser Arg Thr Leu Ala Thr Ile Val Ala Gly Ala Val
530 535 540

Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Ile Ala Ala Gly Gln Leu
545 550 555 560

Val Lys Ser His Met Lys Tyr Asn Arg Ser Ser Arg Asp Ile Ser Gly
565 570 575

Ala Met Thr Ala Thr Thr Thr
580

<210> 207
<211> 976
<212> PRT
<213> Gibberella fujikuroi

<400> 207

Met Asp His Glu Gly Cys Gln Gly Gln His Pro Gln Gln Cys Cys Gln
1 5 10 15

Trp Val Ser Asn Ala Trp Ser Glu Phe Leu Asp Leu Leu Lys Asn Ala
 20 25 30

Glu Thr Leu Asp Ile Val Ile Met Leu Leu Gly Tyr Ile Ala Met His
 35 40 45

Leu Thr Phe Val Ser Leu Phe Leu Ser Met Arg Lys Met Gly Ser Lys
 50 55 60

Phe Trp Leu Gly Ile Cys Thr Leu Phe Ser Ser Val Phe Ala Phe Leu
 65 70 75 80

Phe Gly Leu Val Val Thr Thr Lys Leu Gly Val Pro Ile Ser Val Ile
 85 90 95

Leu Leu Ser Glu Gly Leu Pro Phe Leu Val Val Thr Ile Gly Phe Glu
 100 105 110

Lys Asn Ile Val Leu Thr Arg Ala Val Met Ser His Ala Ile Glu His
 115 120 125

Arg Arg Ile Gln Ala Gln Asn Ser Lys Ser Gly Lys Arg Ser Pro Asp
 130 135 140

Gly Ser Thr Gln Asn Met Ile Gln Tyr Ala Val Gln Ala Ala Ile Lys
 145 150 155 160

Glu Lys Gly Phe Glu Ile Ile Arg Asp Tyr Ala Ile Glu Ile Val Ile
 165 170 175

Leu Val Ile Gly Ala Ala Ser Gly Val Gln Gly Gly Leu Gln Gln Phe
 180 185 190

Cys Phe Leu Ala Ala Trp Thr Leu Phe Phe Asp Phe Ile Leu Leu Phe
 195 200 205

Thr Phe Tyr Thr Ala Ile Leu Ser Ile Lys Leu Arg Ser Thr Val Ser
 210 215 220

Ser Val Met Ser Ile Cys Val Trp Pro Leu Arg Met Met Ala Ser Arg
 225 230 235 240

Arg Val Ala Glu Asn Val Ala Lys Gly Asp Asp Glu Leu Asn Arg Val
 245 250 255

Arg Gly Asp Ala Pro Leu Phe Gly Arg Lys Ser Ser Ser Ile Pro Lys
260 265 270

Phe Lys Val Leu Met Ile Leu Gly Phe Ile Phe Val Asn Ile Val Asn
275 280 285

Ile Cys Ser Ile Pro Phe Arg Asn Pro Ser Ser Met Ser Thr Ile Arg
290 295 300

Thr Trp Ala Ser Ser Leu Gly Gly Val Ile Ala Pro Leu Ser Val Asp
305 310 315 320

Pro Phe Lys Val Ala Ser Asn Gly Leu Asp Ala Ile Leu Pro Thr Ala
325 330 335

Lys Ser Asn Asn Arg Pro Thr Leu Val Thr Val Leu Thr Pro Ile Lys
340 345 350

Tyr Glu Leu Glu Tyr Pro Ser Ile His Tyr Ala Leu Gly Ser Ala Ala
355 360 365

Ser Asn Pro Ala Tyr Asn Asp Ala Phe His His His Phe Gln Gly Tyr
370 375 380

Gly Val Gly Gly Arg Met Val Gly Gly Ile Leu Lys Ser Leu Glu Asp
385 390 395 400

Pro Val Leu Ser Lys Trp Ile Val Ile Ala Leu Ala Leu Ser Val Ala
405 410 415

Leu Asn Gly Tyr Leu Phe Asn Val Ala Arg Trp Gly Ile Lys Asp Pro
420 425 430

Asn Val Pro Glu His Asn Ile Asp Arg Asn Glu Leu Ala Arg Ala Arg
435 440 445

Glu Phe Asn Asp Thr Gly Ser Ala Thr Leu Pro Leu Gly Glu Tyr Val
450 455 460

Pro Pro Thr Pro Met Arg Thr Gln Pro Ser Thr Pro Ala Ile Thr Asp
465 470 475 480

Asp Glu Ala Glu Gly Leu His Met Thr Lys Ala Arg Pro Ala Asn Leu
485 490 495

Pro Asn Arg Ser Asn Glu Glu Leu Glu Lys Leu Leu Ser Glu Asn Ala
 500 505 510

Leu Arg Glu Met Thr Asp Glu Glu Val Ile Ser Leu Ser Met Arg Gly
 515 520 525

Lys Ile Pro Gly Tyr Ala Leu Glu Lys Thr Leu Gly Asp Phe Thr Arg
 530 535 540

Ala Val Lys Ile Arg Arg Ser Ile Ile Ala Arg Asn Lys Ala Ala Ala
 545 550 555 560

Asp Ile Thr His Ser Leu Asp Arg Ser Lys Leu Pro Tyr Glu Asn Tyr
 565 570 575

Asn Trp Glu Arg Phe Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr
 580 585 590

Met Pro Leu Pro Val Gly Val Ala Gly Pro Leu Val Ile Asp Gly Gln
 595 600 605

Ser Tyr Phe Ile Pro Met Ala Thr Thr Glu Gly Val Leu Val Ala Ser
 610 615 620

Ala Ser Arg Gly Cys Lys Ala Ile Asn Ser Gly Gly Gly Ala Ile Thr
 625 630 635 640

Val Leu Thr Ala Asp Gly Met Thr Arg Gly Pro Cys Val Ala Phe Glu
 645 650 655

Thr Leu Glu Arg Ala Gly Ala Ala Lys Leu Trp Leu Asp Ser Glu Ala
 660 665 670

Gly Gln Asp Met Met Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala
 675 680 685

Arg Leu Gln Ser Met Lys Thr Ala Leu Ala Gly Thr Asn Leu Tyr Ile
 690 695 700

Arg Phe Lys Thr Thr Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser
 705 710 715 720

Lys Gly Val Glu His Ala Leu Ser Val Met Ala Asn Asp Gly Gly Phe
 725 730 735

Asp Asp Met Gln Ile Ile Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys

740					745					750					
Lys	Ala	Ala	Ala	Leu	Asn	Trp	Ile	Asp	Gly	Arg	Gly	Lys	Gly	Val	Val
	755						760					765			
Ala	Glu	Ala	Ile	Ile	Pro	Gly	Glu	Val	Val	Arg	Ser	Val	Leu	Lys	Ser
	770					775					780				
Asp	Val	Asp	Ser	Leu	Val	Glu	Leu	Asn	Val	Ala	Lys	Asn	Leu	Ile	Gly
785						790					795				800
Ser	Ala	Met	Ala	Gly	Ser	Val	Gly	Gly	Phe	Asn	Ala	His	Ala	Ala	Asn
				805					810						815
Ile	Val	Ala	Ala	Ile	Phe	Leu	Ala	Thr	Gly	Gln	Asp	Pro	Ala	Gln	Val
				820					825						830
Val	Glu	Ser	Ala	Asn	Cys	Ile	Thr	Ile	Met	Lys	Asn	Leu	Asn	Gly	Ala
				835					840						845
Leu	Gln	Ile	Ser	Val	Ser	Met	Pro	Ser	Leu	Glu	Val	Gly	Thr	Leu	Gly
	850					855					860				
Gly	Gly	Thr	Ile	Leu	Glu	Pro	Gln	Gly	Ala	Met	Leu	Asp	Ile	Leu	Gly
865						870					875				880
Val	Arg	Gly	Ser	His	Pro	Thr	Asn	Pro	Gly	Asp	Asn	Ala	Arg	Arg	Leu
				885					890						895
Ala	Arg	Ile	Ile	Gly	Ala	Ala	Val	Leu	Ala	Gly	Glu	Leu	Ser	Leu	Cys
				900					905						910
Ser	Ala	Leu	Ala	Ala	Gly	His	Leu	Val	Arg	Ala	His	Met	Gln	His	Asn
				915					920						925
Arg	Ser	Ala	Ala	Pro	Ser	Arg	Ser	Thr	Thr	Pro	Gly	Ser	Ser	His	Asp
				930					935						940
Ala	Arg	Leu	Thr	Gly	His	Asp	Gln	Cys	Pro	Arg	Ala	Leu	Ser	Val	Asn
945						950					955				960
Asn	Val	Asp	Glu	Arg	Arg	Arg	Tyr	Ser	Glu	Val	Lys	Ala	Ile	Asp	Glu
				965					970						975

<210> 208

<211> 244

<212> PRT
<213> Rattus norvegicus

<220>
<221> MISC_FEATURE
<222> (1)..(244)
<223> x equals unknown

<400> 208

Pro Ile Arg Ser Pro Lys Arg Gly Thr Ser Met Gly Met Asn Met Ile
1 5 10 15

Ser Lys Gly Thr Glu Lys Ala Leu Leu Lys Leu Gln Glu Phe Phe Pro
20 25 30

Glu Leu Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys
35 40 45

Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Thr Val Val Cys
50 55 60

Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val Leu Lys Ser Thr
65 70 75 80

Thr Glu Ala Met Val Asp Val Asn Ile Asn Lys Asn Leu Val Gly Ser
85 90 95

Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala Ala Asn Ile
100 105 110

Val Thr Ala Ile Tyr Ile Ala Cys Ala Gln Asp Ala Ala Gln Asn Val
115 120 125

Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly Pro Xaa Xaa
130 135 140

Glu Asp Leu Xaa Xaa Ser Xaa Xaa Met Pro Ser Ile Glu Ile Gly Thr
145 150 155 160

Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys Leu Gln Met
165 170 175

Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg
180 185 190

Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly Glu Leu Ser
195 200 205

Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser His Met Val
 210 215 220

His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly Thr Cys Thr
 225 230 235 240

Lys Lys Ala Ala

<210> 209
 <211> 592
 <212> PRT
 <213> Arabidopsis thaliana

<400> 209

Met Asp Leu Arg Arg Arg Pro Pro Lys Pro Pro Val Thr Asn Asn Asn
 1 5 10 15

Asn Ser Asn Gly Ser Phe Arg Ser Tyr Gln Pro Arg Thr Ser Asp Asp
 20 25 30

Asp His Arg Arg Arg Ala Thr Thr Ile Ala Pro Pro Pro Lys Ala Ser
 35 40 45

Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr
 50 55 60

Leu Phe Phe Ser Val Ala Tyr Tyr Leu Leu His Arg Trp Arg Asp Lys
 65 70 75 80

Ile Arg Tyr Asn Thr Pro Leu His Val Val Thr Ile Thr Glu Leu Gly
 85 90 95

Ala Ile Ile Ala Leu Ile Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe
 100 105 110

Gly Ile Asp Phe Val Gln Ser Phe Ile Ser Arg Ala Ser Gly Asp Ala
 115 120 125

Trp Asp Leu Ala Asp Thr Ile Asp Asp Asp Asp His Arg Leu Val Thr
 130 135 140

Cys Ser Pro Pro Thr Pro Ile Val Ser Val Ala Lys Leu Pro Asn Pro
 145 150 155 160

Glu Pro Ile Val Thr Glu Ser Leu Pro Glu Glu Asp Glu Glu Ile Val
165 170 175

Lys Ser Val Ile Asp Gly Val Ile Pro Ser Tyr Ser Leu Glu Ser Arg
180 185 190

Leu Gly Asp Cys Lys Arg Ala Ala Ser Ile Arg Arg Glu Ala Leu Gln
195 200 205

Arg Val Thr Gly Arg Ser Ile Glu Gly Leu Pro Leu Asp Gly Phe Asp
210 215 220

Tyr Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Pro Val Gly Tyr Ile
225 230 235 240

Gln Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asp Gly Tyr Glu
245 250 255

Tyr Ser Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr
260 265 270

Asn Arg Gly Cys Lys Ala Met Phe Ile Ser Gly Gly Ala Thr Ser Thr
275 280 285

Val Leu Lys Asp Gly Met Thr Arg Ala Pro Val Val Arg Phe Ala Ser
290 295 300

Ala Arg Arg Ala Ser Glu Leu Lys Phe Phe Leu Glu Asn Pro Glu Asn
305 310 315 320

Phe Asp Thr Leu Ala Val Val Phe Asn Arg Ser Ser Arg Phe Ala Arg
325 330 335

Leu Gln Ser Val Lys Cys Thr Ile Ala Gly Lys Asn Ala Tyr Val Arg
340 345 350

Phe Cys Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys
355 360 365

Gly Val Gln Asn Val Leu Glu Tyr Leu Thr Asp Asp Phe Pro Asp Met
370 375 380

Asp Val Ile Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala
385 390 395 400

Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala

	405		410		415
Val Ile Arg	Gly Glu Ile Val Asn Lys	Val Leu Lys Thr Ser Val Ala			
	420	425	430		
Ala Leu Val	Glu Leu Asn Met Leu Lys Asn Leu Ala Gly Ser Ala Val				
	435	440	445		
Ala Gly Ser	Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser				
	450	455	460		
Ala Val Phe	Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser				
	465	470	475	480	
Ser Gln Cys	Ile Thr Met Met Glu Ala Ile Asn Asp Gly Lys Asp Ile				
	485	490	495		
His Ile Ser	Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly				
	500	505	510		
Gly Thr Gln	Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val				
	515	520	525		
Lys Gly Ala	Ser Thr Glu Ser Pro Gly Met Asn Ala Arg Arg Leu Ala				
	530	535	540		
Thr Ile Val	Ala Gly Ala Val Leu Ala Gly Glu Leu Ser Leu Met Ser				
	545	550	555	560	
Ala Ile Ala	Ala Gly Gln Leu Val Arg Ser His Met Lys Tyr Asn Arg				
	565	570	575		
Ser Ser Arg	Asp Ile Ser Gly Ala Thr Thr Thr Thr Thr Thr Thr Thr				
	580	585	590		

<210> 210
 <211> 462
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Non_Ter

<220>
 <221> NON_TER
 <222> (1)..(462)
 <223> Non_Ter

<400> 210

Met Val Leu Val Thr Gln Glu Pro Glu Ile Glu Leu Pro Arg Glu Pro
1 5 10 15

Arg Pro Asn Glu Glu Cys Leu Gln Ile Leu Gly Asn Ala Glu Lys Gly
20 25 30

Ala Lys Phe Leu Ser Asp Ala Glu Ile Ile Gln Leu Val Asn Ala Lys
35 40 45

His Ile Pro Ala Tyr Lys Leu Glu Thr Leu Met Glu Thr His Glu Arg
50 55 60

Gly Val Ser Ile Arg Arg Gln Leu Leu Ser Lys Lys Leu Ser Glu Pro
65 70 75 80

Ser Ser Leu Gln Tyr Leu Pro Tyr Arg Asp Tyr Asn Tyr Ser Leu Val
85 90 95

Met Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro Val
100 105 110

Gly Val Ala Gly Pro Leu Cys Leu Asp Glu Lys Glu Phe Gln Val Pro
115 120 125

Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys
130 135 140

Arg Ala Ile Gly Leu Gly Gly Gly Ala Ser Ser Arg Val Leu Ala Asp
145 150 155 160

Gly Met Thr Arg Gly Pro Val Val Arg Leu Pro Arg Ala Cys Asp Ser
165 170 175

Ala Glu Val Lys Ala Trp Leu Glu Thr Ser Glu Gly Phe Ala Val Ile
180 185 190

Lys Glu Ala Phe Asp Ser Thr Ser Arg Phe Ala Arg Leu Gln Lys Leu
195 200 205

His Thr Ser Ile Ala Gly Arg Asn Leu Tyr Ile Arg Phe Gln Ser Arg
210 215 220

Ser Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys Gly Thr Glu Lys
225 230 235 240

Ala Leu Ser Lys Leu His Glu Tyr Phe Pro Glu Met Gln Ile Leu Ala
245 250 255

Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp
260 265 270

Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Val Ile Pro Ser
275 280 285

Lys Val Val Arg Glu Val Leu Lys Thr Thr Thr Glu Ala Met Ile Glu
290 295 300

Val Asn Ile Asn Lys Asn Leu Val Gly Ser Ala Met Ala Gly Ser Ile
305 310 315 320

Gly Gly Tyr Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile
325 330 335

Ala Cys Gly Gln Asp Ala Ala Gln Asn Val Gly Ser Ser Asn Cys Ile
340 345 350

Thr Leu Met Glu Ala Ser Gly Pro Thr Asn Glu Asp Leu Tyr Ile Ser
355 360 365

Cys Thr Met Pro Ser Ile Glu Ile Gly Thr Val Gly Gly Gly Thr Asn
370 375 380

Leu Leu Pro Gln Gln Ala Cys Leu Gln Met Leu Gly Val Gln Gly Ala
385 390 395 400

Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg Gln Leu Ala Arg Ile Val
405 410 415

Cys Gly Thr Val Met Ala Gly Glu Leu Ser Leu Met Ala Ala Leu Ala
420 425 430

Ala Gly His Leu Val Lys Ser His Met Ile His Asn Arg Ser Lys Ile
435 440 445

Asn Leu Gln Asp Leu Gln Gly Ala Cys Thr Lys Lys Thr Ala
450 455 460

<210> 211

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> NON_TER

<220>

<221> NON_TER

<222> (1)..(115)

<223>

<400> 211

Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly Pro Thr Asn Glu
1 5 10 15

Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu Ile Gly Thr Val
20 25 30

Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys Leu Gln Met Leu
35 40 45

Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg Gln
50 55 60

Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly Glu Leu Ser Leu
65 70 75 80

Met Ala Ala Leu Ala Ala Gly His Leu Val Lys Ser His Met Ile His
85 90 95

Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly Ala Cys Thr Lys
100 105 110

Lys Thr Ala
115

<210> 212

<211> 102

<212> PRT

<213> Artificial Sequence

<220>

<223> NON_TER

<220>

<221> NON_TER

<222> (1)..(102)

<223> NON_TER

<400> 212

Leu His Glu Tyr Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn

1 5 10 15
 Tyr Cys Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg
 20 25 30
 Gly Lys Ser Val Val Cys Glu Ala Val Ile Pro Ser Lys Val Val Arg
 35 40 45
 Glu Val Leu Lys Thr Thr Thr Glu Ala Met Ile Glu Val Asn Ile Asn
 50 55 60
 Lys Asn Leu Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn
 65 70 75 80
 Ala His Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln
 85 90 95
 Asp Ala Ala Gln Asn Val
 100

<210> 213
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> NON_TER
 <220>
 <221> NON_TER
 <222> (1)..(119)
 <223> NON_TER

<400> 213

Phe Gln Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr
 1 5 10 15
 Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly Gly Gly Ala Ser Ser Arg
 20 25 30
 Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val Val Arg Leu Pro Arg
 35 40 45
 Ala Cys Asp Ser Ala Glu Val Lys Ala Trp Leu Glu Thr Ser Glu Gly
 50 55 60
 Phe Ala Val Ile Lys Glu Ala Phe Asp Ser Thr Ser Arg Phe Ala Arg
 65 70 75 80

Leu Gln Lys Leu His Thr Ser Ile Ala Gly Arg Asn Leu Tyr Ile Arg
85 90 95

Phe Gln Ser Arg Ser Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys
100 105 110

Gly Thr Glu Lys Ala Leu Ser
115

<210> 214
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> NON_TER

<220>
<221> NON_TER
<222> (1)..(123)
<223> NON_TER

<400> 214

Met Val Leu Val Thr Gln Glu Pro Glu Ile Glu Leu Pro Arg Glu Pro
1 5 10 15

Arg Pro Asn Glu Glu Cys Leu Gln Ile Leu Gly Asn Ala Glu Lys Gly
20 25 30

Ala Lys Phe Leu Ser Asp Ala Glu Ile Ile Gln Leu Val Asn Ala Lys
35 40 45

His Ile Pro Ala Tyr Lys Leu Glu Thr Leu Met Glu Thr His Glu Arg
50 55 60

Gly Val Ser Ile Arg Arg Gln Leu Leu Ser Lys Lys Leu Ser Glu Pro
65 70 75 80

Ser Ser Leu Gln Tyr Leu Pro Tyr Arg Asp Tyr Asn Tyr Ser Leu Val
85 90 95

Met Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro Val
100 105 110

Gly Val Ala Gly Pro Leu Cys Leu Asp Glu Lys
115 120

<210> 215
 <211> 562
 <212> PRT
 <213> Arabidopsis thaliana

<400> 215

Met Glu Asp Leu Arg Arg Arg Phe Pro Thr Lys Lys Asn Gly Glu Glu
 1 5 10 15

Ile Ser Asn Val Ala Val Asp Pro Pro Leu Arg Lys Ala Ser Asp Ala
 20 25 30

Leu Pro Leu Pro Leu Tyr Leu Thr Asn Thr Phe Phe Leu Ser Leu Phe
 35 40 45

Phe Ala Thr Val Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys Ile Arg
 50 55 60

Asn Ser Thr Pro Leu His Val Val Asp Leu Ser Glu Ile Cys Ala Leu
 65 70 75 80

Ile Gly Phe Val Ala Ser Phe Ile Tyr Leu Leu Gly Phe Cys Gly Ile
 85 90 95

Asp Leu Ile Phe Arg Ser Ser Ser Asp Asp Asp Val Trp Val Asn Asp
 100 105 110

Gly Met Ile Pro Cys Asn Gln Ser Leu Asp Cys Arg Glu Val Leu Pro
 115 120 125

Ile Lys Pro Asn Ser Val Asp Pro Pro Arg Glu Ser Glu Leu Asp Ser
 130 135 140

Val Glu Asp Glu Glu Ile Val Lys Leu Val Ile Asp Gly Thr Ile Pro
 145 150 155 160

Ser Tyr Ser Leu Glu Thr Lys Leu Gly Asp Cys Lys Arg Ala Ala Ala
 165 170 175

Ile Arg Arg Glu Ala Val Gln Arg Ile Thr Gly Lys Ser Leu Thr Gly
 180 185 190

Leu Pro Leu Glu Gly Phe Asp Tyr Asn Ser Ile Leu Gly Gln Cys Cys
 195 200 205

Glu Met Pro Val Gly Tyr Val Gln Ile Pro Val Gly Ile Ala Gly Pro

210	215	220														
Leu 225	Leu	Leu	Asp	Gly	Val 230	Glu	Tyr	Ser	Val	Pro 235	Met	Ala	Thr	Thr	Glu 240	
Gly	Cys	Leu	Val	Ala 245	Ser	Thr	Asn	Arg	Gly 250	Phe	Lys	Ala	Ile	His 255	Leu	
Ser	Gly	Gly	Ala 260	Phe	Ser	Val	Leu	Val 265	Lys	Asp	Ala	Met	Thr 270	Arg	Ala	
Pro	Val 275	Val	Arg	Phe	Pro	Ser	Ala 280	Arg	Arg	Ala	Ala	Leu 285	Val	Met	Phe	
Tyr 290	Leu	Gln	Asp	Pro	Ser	Asn 295	Phe	Glu	Arg	Leu	Ser 300	Leu	Ile	Phe	Asn	
Lys 305	Ser	Ser	Arg	Phe	Ala 310	Arg	Leu	Gln	Ser	Ile 315	Thr	Cys	Thr	Ile	Ala 320	
Gly	Arg	Asn	Leu	Tyr 325	Pro	Arg	Phe	Ala	Cys 330	Ser	Thr	Gly	Asp	Ala 335	Met	
Gly	Met	Asn	Met 340	Val	Ser	Lys	Gly	Val 345	Gln	Asn	Val	Leu	Asp 350	Phe	Val	
Lys	Ser	Glu 355	Phe	Pro	Asp	Met	Asp 360	Val	Ile	Gly	Ile	Ser 365	Gly	Asn	Tyr	
Cys 370	Ser	Asp	Lys	Lys	Ala	Ser 375	Ala	Val	Asn	Trp	Ile 380	Glu	Gly	Arg	Gly	
Lys 385	His	Val	Val	Cys	Glu 390	Ala	Phe	Ile	Lys	Ala 395	Glu	Ile	Val	Glu	Lys 400	
Val	Leu	Lys	Thr 405	Ser	Val	Glu	Ala	Leu	Val 410	Glu	Leu	Asn	Thr	Leu 415	Lys	
Asn	Leu	Val	Gly 420	Ser	Ala	Met	Ala	Gly 425	Ser	Leu	Gly	Gly	Phe	Asn	Ala	
His	Ser	Ser	Asn 435	Ile	Val	Ser	Ala 440	Val	Phe	Ile	Ala	Thr 445	Gly	Gln	Asp	
Pro	Ala 450	Gln	Asn	Val	Glu	Ser 455	Ser	His	Cys	Met	Thr 460	Met	Ile	Leu	Pro	

Asp Gly Asp Asp Leu His Ile Ser Val Ser Met Pro Cys Ile Glu Val
 465 470 475 480

Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ala Ala Cys Leu
 485 490 495

Asn Leu Leu Gly Val Lys Gly Ser Asn Asn Glu Lys Pro Gly Ser Asn
 500 505 510

Ala Gln Gln Leu Ala Arg Ile Val Ala Gly Ser Val Leu Ala Gly Glu
 515 520 525

Leu Ser Leu Met Ser Ala Ile Ala Ala Gly Gln Leu Val Lys Ser His
 530 535 540

Met Lys Tyr Asn Arg Ser Ser Arg Asp Ile Gly Pro Ser Ser Gln Val
 545 550 555 560

Asn Arg

<210> 216
 <211> 224
 <212> PRT
 <213> Mus musculus

<400> 216

Glu Lys Ala Leu Leu Lys Leu Gln Glu Phe Phe Pro Asp Met Gln Ile
 1 5 10 15

Leu Ala Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala Ile
 20 25 30

Asn Trp Ile Glu Gly Arg Gly Lys Thr Val Val Cys Glu Ala Val Ile
 35 40 45

Pro Ala Lys Val Val Arg Glu Val Leu Lys Thr Thr Thr Glu Ala Met
 50 55 60

Val Asp Val Asn Ile Asn Lys Asn Leu Val Gly Ser Ala Met Ala Gly
 65 70 75 80

Ser Ile Gly Gly Tyr Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile
 85 90 95

Tyr Ile Ala Cys Gly Gln Asp Ala Ala Gln Asn Val Gly Ser Ser Asn
100 105 110

Cys Ile Thr Leu Met Glu Ala Ser Gly Pro Thr Asn Glu Asp Leu Tyr
115 120 125

Ile Ser Cys Thr Met Pro Ser Ile Glu Ile Gly Thr Val Gly Gly Gly
130 135 140

Thr Asn Leu Leu Pro Gln Gln Ala Cys Leu Gln Met Leu Gly Val Gln
145 150 155 160

Gly Ala Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg Gln Leu Ala Arg
165 170 175

Ile Val Cys Gly Thr Val Met Ala Gly Glu Leu Ser Leu Met Ala Ala
180 185 190

Leu Ala Ala Gly His Leu Val Arg Ser His Met Val His Asn Arg Ser
195 200 205

Lys Ile Asn Leu Gln Asp Leu Gln Gly Thr Cys Thr Lys Lys Ala Ala
210 215 220

<210> 217

<211> 887

<212> PRT

<213> Mesocricetus auratus

<400> 217

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
20 25 30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
35 40 45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
50 55 60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65 70 75 80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
85 90 95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
100 105 110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
115 120 125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Ala Leu Ala Lys Phe Ala
130 135 140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
145 150 155 160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
165 170 175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
180 185 190

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
195 200 205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
210 215 220

Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
225 230 235 240

Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
245 250 255

Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
260 265 270

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Thr Glu His Ser Lys
275 280 285

Val Ser Leu Gly Leu Asp Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
290 295 300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
305 310 315 320

Glu Gln Val Val Thr Leu Ser Leu Ala Phe Leu Leu Ala Val Lys Tyr
325 330 335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
 340 345 350

Pro Ile Thr Ser Pro Val Ala Thr Pro Lys Lys Ala Pro Asp Asn Cys
 355 360 365

Cys Arg Arg Glu Pro Val Leu Ser Arg Arg Asn Glu Lys Leu Ser Ser
 370 375 380

Val Glu Glu Glu Pro Gly Val Asn Gln Asp Arg Lys Val Glu Val Ile
 385 390 395 400

Lys Pro Leu Val Ala Glu Thr Glu Ser Thr Ser Arg Ala Thr Phe Val
 405 410 415

Leu Gly Ala Ser Gly Gly Cys Ser Pro Val Ala Leu Gly Thr Gln Glu
 420 425 430

Pro Glu Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
 435 440 445

Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
 450 455 460

Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu
 465 470 475 480

Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg Gln
 485 490 495

Leu Leu Ser Thr Lys Leu Pro Glu Pro Ser Ser Leu Gln Tyr Leu Pro
 500 505 510

Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn
 515 520 525

Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Cys
 530 535 540

Leu Asp Gly Lys Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys
 545 550 555 560

Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly Gly
 565 570 575

Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val
 580 585 590
 Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp Leu
 595 600 605
 Glu Thr Pro Glu Gly Phe Ala Val Ile Lys Asp Ala Phe Asp Ser Thr
 610 615 620
 Ser Arg Phe Ala Arg Leu Gln Lys Leu His Val Thr Met Ala Gly Arg
 625 630 635 640
 Asn Leu Tyr Ile Arg Phe Gln Ser Lys Thr Gly Asp Ala Met Gly Met
 645 650 655
 Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Val Lys Leu Gln Glu
 660 665 670
 Phe Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr
 675 680 685
 Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Thr
 690 695 700
 Val Val Cys Glu Ala Val Ile Pro Ala Arg Val Val Arg Glu Val Leu
 705 710 715 720
 Lys Thr Thr Thr Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn Leu
 725 730 735
 Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala
 740 745 750
 Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala
 755 760 765
 Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly
 770 775 780
 Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu
 785 790 795 800
 Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys
 805 810 815
 Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu

	820		825		830										
Asn	Ala	Arg	Gln	Leu	Ala	Arg	Ile	Val	Cys	Gly	Thr	Val	Met	Ala	Gly
	835						840					845			
Glu	Leu	Ser	Leu	Met	Ala	Ala	Leu	Ala	Ala	Gly	His	Leu	Val	Arg	Ser
850					855						860				
His	Met	Val	His	Asn	Arg	Ser	Lys	Ile	Asn	Leu	Gln	Asp	Leu	Gln	Gly
865					870					875					880
Thr	Cys	Thr	Lys	Lys	Ala	Ala									
				885											
<210> 218															
<211> 1045															
<212> PRT															
<213> Saccharomyces cerevisiae															
<400> 218															
Met	Ser	Leu	Pro	Leu	Lys	Thr	Ile	Val	His	Leu	Val	Lys	Pro	Phe	Ala
1				5					10					15	
Cys	Thr	Ala	Arg	Phe	Ser	Ala	Arg	Tyr	Pro	Ile	His	Val	Ile	Val	Val
		20						25					30		
Ala	Val	Leu	Leu	Ser	Ala	Ala	Ala	Tyr	Leu	Ser	Val	Thr	Gln	Ser	Tyr
	35						40					45			
Leu	Asn	Glu	Trp	Lys	Leu	Asp	Ser	Asn	Gln	Tyr	Ser	Thr	Tyr	Leu	Ser
50						55					60				
Ile	Lys	Pro	Asp	Glu	Leu	Phe	Glu	Lys	Cys	Thr	His	Tyr	Tyr	Arg	Ser
65					70					75					80
Pro	Val	Ser	Asp	Thr	Trp	Lys	Leu	Leu	Ser	Ser	Lys	Glu	Ala	Ala	Asp
				85					90					95	
Ile	Tyr	Thr	Pro	Phe	His	Tyr	Tyr	Leu	Ser	Thr	Ile	Ser	Phe	Gln	Ser
			100					105					110		
Lys	Asp	Asn	Ser	Thr	Thr	Leu	Pro	Ser	Leu	Asp	Asp	Val	Ile	Tyr	Ser
	115						120					125			
Val	Asp	His	Thr	Arg	Tyr	Leu	Leu	Ser	Glu	Glu	Pro	Lys	Ile	Pro	Thr
130						135					140				

Glu Leu Val Ser Glu Asn Gly Thr Lys Trp Arg Leu Arg Asn Asn Ser
 145 150 155 160

Asn Phe Ile Leu Asp Leu His Asn Ile Tyr Arg Asn Met Val Lys Gln
 165 170 175

Phe Ser Asn Lys Thr Ser Glu Phe Asp Gln Phe Asp Leu Phe Ile Ile
 180 185 190

Leu Ala Ala Tyr Leu Thr Leu Phe Tyr Thr Leu Cys Cys Leu Phe Asn
 195 200 205

Asp Met Arg Lys Ile Gly Ser Lys Phe Trp Leu Ser Phe Ser Ala Leu
 210 215 220

Ser Asn Ser Ala Cys Ala Leu Tyr Leu Ser Leu Tyr Thr Thr His Ser
 225 230 235 240

Leu Leu Lys Lys Pro Ala Ser Leu Leu Ser Leu Val Ile Gly Leu Pro
 245 250 255

Phe Ile Val Val Ile Ile Gly Phe Lys His Lys Val Arg Leu Ala Ala
 260 265 270

Phe Ser Leu Gln Lys Phe His Arg Ile Ser Ile Asp Lys Lys Ile Thr
 275 280 285

Val Ser Asn Ile Ile Tyr Glu Ala Met Phe Gln Glu Gly Ala Tyr Leu
 290 295 300

Ile Arg Asp Tyr Leu Phe Tyr Ile Ser Ser Phe Ile Gly Cys Ala Ile
 305 310 315 320

Tyr Ala Arg His Leu Pro Gly Leu Val Asn Phe Cys Ile Leu Ser Thr
 325 330 335

Phe Met Leu Val Phe Asp Leu Leu Leu Ser Ala Thr Phe Tyr Ser Ala
 340 345 350

Ile Leu Ser Met Lys Leu Glu Ile Asn Ile Ile His Arg Ser Thr Val
 355 360 365

Ile Arg Gln Thr Leu Glu Glu Asp Gly Val Val Pro Thr Thr Ala Asp
 370 375 380

Ile Ile Tyr Lys Asp Glu Thr Ala Ser Glu Pro His Phe Leu Arg Ser
385 390 395 400

Asn Val Ala Ile Ile Leu Gly Lys Ala Ser Val Ile Gly Leu Leu Leu
405 410 415

Leu Ile Asn Leu Tyr Val Phe Thr Asp Lys Leu Asn Ala Thr Ile Leu
420 425 430

Asn Thr Val Tyr Phe Asp Ser Thr Ile Tyr Ser Leu Pro Asn Phe Ile
435 440 445

Asn Tyr Lys Asp Ile Gly Asn Leu Ser Asn Gln Val Ile Ile Ser Val
450 455 460

Leu Pro Lys Gln Tyr Tyr Thr Pro Leu Lys Lys Tyr His Gln Ile Glu
465 470 475 480

Asp Ser Val Leu Leu Ile Ile Asp Ser Val Ser Asn Ala Ile Arg Asp
485 490 495

Gln Phe Ile Ser Lys Leu Leu Phe Phe Ala Phe Ala Val Ser Ile Ser
500 505 510

Ile Asn Val Tyr Leu Leu Asn Ala Ala Lys Ile His Thr Gly Tyr Met
515 520 525

Asn Phe Gln Pro Gln Ser Asn Lys Ile Asp Asp Leu Val Val Gln Gln
530 535 540

Lys Ser Ala Thr Ile Glu Phe Ser Glu Thr Arg Ser Met Pro Ala Ser
545 550 555 560

Ser Gly Leu Glu Thr Pro Val Thr Ala Lys Asp Ile Ile Ile Ser Glu
565 570 575

Glu Ile Gln Asn Asn Glu Cys Val Tyr Ala Leu Ser Ser Gln Asp Glu
580 585 590

Pro Ile Arg Pro Leu Ser Asn Leu Val Glu Leu Met Glu Lys Glu Gln
595 600 605

Leu Lys Asn Met Asn Asn Thr Glu Val Ser Asn Leu Val Val Asn Gly
610 615 620

Lys Leu Pro Leu Tyr Ser Leu Glu Lys Lys Leu Glu Asp Thr Thr Arg

625		630		635		640
Ala Val Leu Val Arg Arg Lys Ala Leu Ser Thr Leu Ala Glu Ser Pro						
		645		650		655
Ile Leu Val Ser Glu Lys Leu Pro Phe Arg Asn Tyr Asp Tyr Asp Arg						
		660		665		670
Val Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro						
		675		680		685
Val Gly Val Ile Gly Pro Leu Ile Ile Asp Gly Thr Ser Tyr His Ile						
		690		695		700
Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Ala Met Arg Gly						
705		710		715		720
Cys Lys Ala Ile Asn Ala Gly Gly Gly Ala Thr Thr Val Leu Thr Lys						
		725		730		735
Asp Gly Met Thr Arg Gly Pro Val Val Arg Phe Pro Thr Leu Ile Arg						
		740		745		750
Ser Gly Ala Cys Lys Ile Trp Leu Asp Ser Glu Glu Gly Gln Asn Ser						
		755		760		765
Ile Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala Arg Leu Gln His						
		770		775		780
Ile Gln Thr Cys Leu Ala Gly Asp Leu Leu Phe Met Arg Phe Arg Thr						
785		790		795		800
Thr Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys Gly Val Glu						
		805		810		815
Tyr Ser Leu Lys Gln Met Val Glu Glu Tyr Gly Trp Glu Asp Met Glu						
		820		825		830
Val Val Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala						
		835		840		845
Ile Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Ala Glu Ala Thr						
		850		855		860
Ile Pro Gly Asp Val Val Lys Ser Val Leu Lys Ser Asp Val Ser Ala						
865		870		875		880

Leu Val Glu Leu Asn Ile Ser Lys Asn Leu Val Gly Ser Ala Met Ala
885 890 895

Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn Leu Val Thr Ala
900 905 910

Leu Phe Leu Ala Leu Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser
915 920 925

Asn Cys Ile Thr Leu Met Lys Glu Val Asp Gly Asp Leu Arg Ile Ser
930 935 940

Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly Gly Gly Thr Val
945 950 955 960

Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly Val Arg Gly Pro
965 970 975

His Pro Thr Glu Pro Gly Ala Asn Ala Arg Gln Leu Ala Arg Ile Ile
980 985 990

Ala Cys Ala Val Leu Ala Gly Glu Leu Ser Leu Cys Ser Ala Leu Ala
995 1000 1005

Ala Gly His Leu Val Gln Ser His Met Thr His Asn Arg Lys Thr
1010 1015 1020

Asn Lys Ala Asn Glu Leu Pro Gln Pro Ser Asn Lys Gly Pro Pro
1025 1030 1035

Cys Lys Thr Ser Ala Leu Leu
1040 1045

<210> 219
<211> 592
<212> PRT
<213> Arabidopsis thaliana

<400> 219

Met Asp Leu Arg Arg Arg Pro Pro Lys Pro Pro Val Thr Asn Asn Asn
1 5 10 15

Asn Ser Asn Gly Ser Phe Arg Ser Tyr Gln Pro Arg Thr Ser Asp Asp
20 25 30

Asp His Arg Arg Arg Ala Thr Thr Ile Ala Pro Pro Pro Lys Ala Ser
 35 40 45
 Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr
 50 55 60
 Leu Phe Phe Ser Val Ala Tyr Tyr Leu Leu His Arg Trp Arg Asp Lys
 65 70 75 80
 Ile Arg Tyr Asn Thr Pro Leu His Val Val Thr Ile Thr Glu Leu Gly
 85 90 95
 Ala Ile Ile Ala Leu Ile Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe
 100 105 110
 Gly Ile Asp Phe Val Gln Ser Phe Ile Ser Arg Ala Ser Gly Asp Ala
 115 120 125
 Trp Asp Leu Ala Asp Thr Ile Asp Asp Asp Asp His Arg Leu Val Thr
 130 135 140
 Cys Ser Pro Pro Thr Pro Ile Val Ser Val Ala Lys Leu Pro Asn Pro
 145 150 155 160
 Glu Pro Ile Val Thr Glu Ser Leu Pro Glu Glu Asp Glu Glu Ile Val
 165 170 175
 Lys Ser Val Ile Asp Gly Val Ile Pro Ser Tyr Ser Leu Glu Ser Arg
 180 185 190
 Leu Gly Asp Cys Lys Arg Ala Ala Ser Ile Arg Arg Glu Ala Leu Gln
 195 200 205
 Arg Val Thr Gly Arg Ser Ile Glu Gly Leu Pro Leu Asp Gly Phe Asp
 210 215 220
 Tyr Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Pro Val Gly Tyr Ile
 225 230 235 240
 Gln Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asp Gly Tyr Glu
 245 250 255
 Tyr Ser Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr
 260 265 270
 Asn Arg Gly Cys Lys Ala Met Phe Ile Ser Gly Gly Ala Thr Ser Thr

275					280					285					
Val	Leu	Lys	Asp	Gly	Met	Thr	Arg	Ala	Pro	Val	Val	Arg	Phe	Ala	Ser
290						295					300				
Ala	Arg	Arg	Ala	Ser	Glu	Leu	Lys	Phe	Phe	Leu	Glu	Asn	Pro	Glu	Asn
305					310					315					320
Phe	Asp	Thr	Leu	Ala	Val	Val	Phe	Asn	Arg	Ser	Ser	Arg	Phe	Ala	Arg
				325					330					335	
Leu	Gln	Ser	Val	Lys	Cys	Thr	Ile	Ala	Gly	Lys	Asn	Ala	Tyr	Val	Arg
			340					345					350		
Phe	Cys	Cys	Ser	Thr	Gly	Asp	Ala	Met	Gly	Met	Asn	Met	Val	Ser	Lys
		355					360					365			
Gly	Val	Gln	Asn	Val	Leu	Glu	Tyr	Leu	Thr	Asp	Asp	Phe	Pro	Asp	Met
	370					375					380				
Asp	Val	Ile	Gly	Ile	Ser	Gly	Asn	Phe	Cys	Ser	Asp	Lys	Lys	Pro	Ala
385					390					395					400
Ala	Val	Asn	Trp	Ile	Glu	Gly	Arg	Gly	Lys	Ser	Val	Val	Cys	Glu	Ala
				405					410					415	
Val	Ile	Arg	Gly	Glu	Ile	Val	Asn	Lys	Val	Leu	Lys	Thr	Ser	Val	Ala
			420					425					430		
Ala	Leu	Val	Glu	Leu	Asn	Met	Leu	Lys	Asn	Leu	Ala	Gly	Ser	Ala	Val
		435					440					445			
Ala	Gly	Ser	Leu	Gly	Gly	Phe	Asn	Ala	His	Ala	Ser	Asn	Ile	Val	Ser
	450					455					460				
Ala	Val	Phe	Ile	Ala	Thr	Gly	Gln	Asp	Pro	Ala	Gln	Asn	Val	Glu	Ser
465					470					475					480
Ser	Gln	Cys	Ile	Thr	Met	Met	Glu	Ala	Ile	Asn	Asp	Gly	Lys	Asp	Ile
				485					490					495	
His	Ile	Ser	Val	Thr	Met	Pro	Ser	Ile	Glu	Val	Gly	Thr	Val	Gly	Gly
			500					505					510		
Gly	Thr	Gln	Leu	Ala	Ser	Gln	Ser	Ala	Cys	Leu	Asn	Leu	Leu	Gly	Val
		515					520					525			

Lys Gly Ala Ser Thr Glu Ser Pro Gly Met Asn Ala Arg Arg Leu Ala
 530 535 540

Thr Ile Val Ala Gly Ala Val Leu Ala Gly Glu Leu Ser Leu Met Ser
 545 550 555 560

Ala Ile Ala Ala Gly Gln Leu Val Arg Ser His Met Lys Tyr Asn Arg
 565 570 575

Ser Ser Arg Asp Ile Ser Gly Ala Thr Thr Thr Thr Thr Thr Thr Thr
 580 585 590

<210> 220

<211> 932

<212> PRT

<213> Strongylocentrotus purpuratus

<400> 220

Met Leu Ser Arg Leu Phe Leu Ala Gln Gly Arg Phe Cys Ser Ser His
 1 5 10 15

Pro Trp Glu Val Ile Val Cys Thr Leu Thr Leu Thr Ile Cys Met Leu
 20 25 30

Ser Met Asn Tyr Phe Thr Gly Leu Pro Arg Ile Cys Gly Trp Asn Tyr
 35 40 45

Glu Cys Ala Pro Gln Val Lys Glu Ser Ser Leu Ser Ser Asp Val Leu
 50 55 60

Val Met Cys Ile Met Arg Thr Leu Ala Val Ala Tyr Leu Tyr Leu Gln
 65 70 75 80

Phe Thr Lys Leu Arg Thr Thr Gly Ser Lys Tyr Ile Leu Gly Ile Ala
 85 90 95

Gly Leu Phe Thr Ile Phe Ser Ser Phe Leu Phe Ser Ser Ala Val Ile
 100 105 110

His Leu Phe Gly Leu Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe
 115 120 125

Phe Leu Leu Leu Ile Asp Leu Thr Lys Ala Ser Ala Leu Thr Lys Phe
 130 135 140

Ala Leu Ser Ser Thr Thr Gln Asn Glu Val Val Asp Asn Ile Ala Arg
 145 150 155 160

Gly Met Ala Ile Leu Gly Pro Thr Ile Thr Leu Asp Thr Val Val Thr
 165 170 175

Thr Leu Val Ile Ser Ile Gly Thr Met Ser Ser Ile Arg Lys Met Glu
 180 185 190

Val Phe Cys Cys Phe Gly Ile Leu Ser Leu Ile Ala Asn Tyr Phe Val
 195 200 205

Phe Met Thr Phe Phe Pro Ala Cys Leu Ser Leu Val Leu Glu Leu Ser
 210 215 220

Asn Ser Asn Lys Tyr Gly Arg Pro Val Trp His Leu Gly Arg Phe Ala
 225 230 235 240

Glu Val Leu Glu Glu Glu Glu Asp Arg Lys Pro Asn Pro Val Val Gln
 245 250 255

Arg Val Lys Met Ile Met Arg Thr Gly Leu Val Leu Val His Ala His
 260 265 270

Ser Tyr Trp Leu Ala Ser Asn Asp Thr Glu Leu Met Ser Arg Asp Met
 275 280 285

Leu Tyr Asp Gly Asn Leu Leu Thr Asp Lys Lys Ile Asp Pro Thr Met
 290 295 300

Pro Leu Trp Glu Phe Tyr Ala Thr Arg Leu Trp Pro Pro Thr Leu Asp
 305 310 315 320

Tyr Ile Leu Thr Ala Ile Leu Ala Thr Val Leu Ala Ser His Tyr Ile
 325 330 335

Phe Phe Ser Asp Leu Ala Thr Tyr Pro Glu Lys Arg Val Ser Ile Met
 340 345 350

Glu Gly His Glu Val Val Asn Pro Gly Ser Asp His Glu Asp Ala Ser
 355 360 365

Glu Val Glu Thr Ile Gly Thr Leu Ser Ser Ser Pro Ser Thr Ser Asp
 370 375 380

Val Arg Val Ile Glu Ser Met Thr Ser Arg Thr Gln Ala Cys Gln Thr

385		390		395		400									
Asp	Pro	Val	Thr	Ala	Ser	Pro	Arg	Asn	Ser	Arg	Ser	Ser	Ser	Pro	Val
				405					410					415	
Ser	Ser	His	Ser	Val	Lys	Pro	Ala	Arg	Phe	Thr	Ile	Gly	Ser	Ser	Gly
			420					425					430		
Ser	Gly	Ser	Glu	Asp	Glu	Glu	Glu	Glu	Val	Ile	Lys	Glu	Glu	Glu	Val
		435					440					445			
Glu	Trp	Val	Leu	Glu	Thr	Glu	Leu	Lys	Ala	Pro	Arg	Pro	Met	Pro	Glu
	450					455					460				
Leu	Leu	Glu	Ile	Leu	Asn	Val	Gly	Lys	Gly	Pro	Asn	Ala	Leu	Thr	Asp
465					470					475					480
Asp	Glu	Val	Gln	Leu	Leu	Val	Gly	Ala	Lys	His	Ile	Pro	Ala	Tyr	Lys
			485						490					495	
Leu	Glu	Asn	Ile	Leu	Asp	Asn	Pro	Glu	Arg	Gly	Val	Ala	Val	Arg	Arg
		500						505					510		
Gln	Ile	Ile	Ser	Lys	Leu	Leu	Pro	Ile	Thr	Asp	Ala	Leu	Glu	Lys	Leu
		515					520					525			
Pro	Tyr	Ala	Ser	Tyr	Asp	Tyr	Ser	Phe	Val	Ser	Gly	Ala	Cys	Cys	Glu
	530					535					540				
Asn	Val	Ile	Gly	Tyr	Met	Pro	Val	Pro	Val	Gly	Val	Ala	Gly	Pro	Leu
545					550					555					560
Leu	Leu	Asp	Gly	Gln	Glu	Phe	Gln	Val	Pro	Met	Ala	Thr	Thr	Glu	Gly
			565					570						575	
Cys	Leu	Val	Ala	Ser	Thr	Asn	Arg	Gly	Cys	Arg	Ala	Leu	Arg	Ser	Ala
			580					585					590		
Gly	Gly	Ile	His	Ser	Val	Leu	Ile	Gly	Asp	Gly	Met	Thr	Arg	Gly	Pro
		595					600					605			
Leu	Val	Arg	Leu	Pro	Ser	Ala	Gln	Glu	Ala	Gly	Ala	Ile	Lys	Gln	Trp
	610					615					620				
Leu	Glu	Val	Pro	Glu	Asn	Phe	Ala	Ala	Ile	Lys	Glu	Arg	Phe	Glu	Ser
625					630					635					640

Thr Ser Arg Phe Ala Lys Leu Lys Ser Ile Gln Thr Ala Leu Ala Gly
 645 650 655
 Arg Tyr Met Phe Leu Arg Phe Lys Ala Leu Thr Gly Asp Ala Met Gly
 660 665 670
 Met Asn Met Ile Ser Lys Gly Thr Glu Gln Ala Leu His Ala Leu Gln
 675 680 685
 Thr Met Phe Pro Asn Ile Glu Ile Met Ser Leu Ser Gly Asn Tyr Cys
 690 695 700
 Thr Asp Lys Lys Val Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys
 705 710 715 720
 Ser Val Val Cys Glu Ala Thr Val Pro Ala His Ile Val Gln Gln Val
 725 730 735
 Leu Lys Thr Ser Ala Ser Ala Leu Val Asp Leu Asn Ile His Lys Asn
 740 745 750
 Leu Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Phe Asn Ala His
 755 760 765
 Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Thr Gly Gln Asp Ala
 770 775 780
 Ala Gln Asn Ile Ala Ser Ser Asn Cys Met Thr Leu Met Glu Thr Arg
 785 790 795 800
 Gly Pro Lys Gly Gly Asp Leu Tyr Leu Ser Cys Thr Met Pro Ser Ile
 805 810 815
 Glu Leu Gly Thr Val Gly Gly Gly Thr Val Leu Pro Pro Gln Ser Ala
 820 825 830
 Cys Leu Gln Met Met Asp Val Lys Gly Ser Asn Ile His Gly Ser Gly
 835 840 845
 Leu Asn Ala Ser Gln Leu Ala Arg Ile Val Cys Ala Thr Val Met Ala
 850 855 860
 Gly Glu Leu Ser Leu Met Ser Ala Leu Ala Ala Gly His Leu Val Lys
 865 870 875 880

Ser His Met Lys His Asn Arg Ser Ala Leu Asn Ile Ala Ser Pro Leu
885 890 895

Pro Ser Ile Asp Glu Val Ala Thr His Arg Arg Ser Lys Ser Val Asp
900 905 910

Phe Ser Ala Leu Lys Glu Ser Ser Ala Ala Ala Pro Gly Thr Cys Thr
915 920 925

Ala Asn Ala Ser
930

<210> 221

<211> 948

<212> PRT

<213> Schistosoma mansoni

<400> 221

Met Leu Lys Ile Leu Asn Thr Val Leu Leu Phe Phe Asp Cys Phe Ser
1 5 10 15

Thr Gly Thr Phe Phe Val Leu Leu Ile Tyr Leu Phe Thr Arg Leu Arg
20 25 30

Thr His Leu Leu His Phe Ser Ser Ser Asn Cys His Leu Asp Val Ile
35 40 45

Ile Tyr Gln Ser Arg Ala Val Ile Ile Phe Leu Val Val Phe Val Tyr
50 55 60

Phe Ile Gly Val Leu Thr Cys Lys Ile Asn Asp Lys Ile Leu Val His
65 70 75 80

Thr Met Leu Arg Asn Lys Arg Gln Leu Asn Thr Leu Phe Tyr Thr Leu
85 90 95

Ile Leu Phe Thr Phe Ala Leu Cys Ser Leu Ser Ser Val Leu Phe Val
100 105 110

Pro Tyr Thr Ser Phe Ala Ile Phe Leu Leu Ser Thr Ser Val Phe Leu
115 120 125

Leu Phe Ser Asp Leu Ser Val Phe Phe Ile Val Leu Glu Tyr Tyr Leu
130 135 140

Leu Glu Ile Glu Leu Val Asn Tyr Glu His Ala Lys Arg His Cys Leu

145		150		155		160
Leu Ser His Leu Phe Ser Asn Gln Leu Phe Val Asp His Met Leu Gly	165	170	175			
Met Phe Leu Lys Thr Ser Leu Phe Ser Ile Ser Thr Thr Ser Lys Tyr	180	185	190			
Ala Tyr Leu Glu Ser Ile Phe Lys Cys Thr Leu Met Glu Gln Ile Ile	195	200	205			
Tyr Ile Met Ile Val Phe Val Phe Leu Pro Ser Phe Met Arg Ile Phe	210	215	220			
Ala Ser Tyr Ala Lys Arg Met Tyr Gly Glu Gln Lys Lys Cys Leu Val	225	230	235			240
Ser Asn Lys Gly Val Ser Ser Ser Thr Arg Lys Arg Arg His Ser Tyr	245	250	255			
Ser Ser Gly His Ser Tyr Val Glu Tyr Arg Arg Met Ser Val His Asn	260	265	270			
Leu Ile Gly Tyr Val Val Asn Pro Asn Cys His Tyr Lys Cys Trp Ser	275	280	285			
Thr Thr Phe Val Ile Phe Val Ser Leu Ile Ile Leu His Leu Asn Asn	290	295	300			
Arg Tyr Ser Glu Arg Ile Ser Ser Phe Lys His Asn Ser Ser Glu Asn	305	310	315			320
Glu Val Phe Pro Val Leu Tyr His Ile Thr Ala Tyr Glu Val Thr Ser	325	330	335			
Ile Phe His Phe Ile Tyr Asn Ile Phe His Val Ile Asn Ala Asn Leu	340	345	350			
Val Val Tyr Leu Phe Leu Gly Leu Phe Leu Phe Lys Arg Ile Arg Leu	355	360	365			
Asn Lys Pro Ile Asn Ser Gln Leu Arg Asn Leu Asn Ile Pro Lys Ile	370	375	380			
Lys Glu Thr Leu Ile Ser Asp Gln Val Lys Gln Ser Pro Val Leu Pro	385	390	395			400

Lys Phe Ser Lys Lys Leu Asn Asp Ile Pro Leu Gln Ser Arg Lys Arg
405 410 415

Ile Tyr Cys Leu His Lys Asp Asp Asp Tyr Ile Asp Arg Asn Asp Ser
420 425 430

Ser Ser Val Ser Thr Phe Ser Asn Thr Cys Lys Asn Ser Asn Glu Arg
435 440 445

Pro Ser Asn Val Leu Asp Leu Asp Met Leu Thr Glu Lys Ile Lys Gln
450 455 460

Gly Leu Gly His Glu Leu Ser Asp Thr Glu Ile Leu Gln Leu Leu Ser
465 470 475 480

His Gly Arg Leu Lys Thr Arg Glu Leu Glu Ser Val Val Arg Asn Pro
485 490 495

Phe Arg Ala Val Glu Leu Arg Arg Leu Asp Leu Ser Thr Phe Leu Asn
500 505 510

Asn Pro His Ile Ile Glu Arg Ile Pro Tyr Lys Asp Tyr Asp Tyr Arg
515 520 525

Leu Val Tyr Gly Gln Cys Cys Glu Glu Val Ile Gly Tyr Met Pro Ile
530 535 540

Pro Val Gly Lys Ile Gly Pro Leu Leu Leu Asp Gly Arg Ser His Tyr
545 550 555 560

Ile Pro Leu Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg
565 570 575

Gly Cys Arg Ala Ile Phe Leu Ala Gly Gly Ile Lys Ser Val Val Tyr
580 585 590

Arg Asp Gln Met Thr Arg Ala Pro Val Val Trp Phe Pro Ser Ile Ile
595 600 605

Asp Ser Val Lys Cys Ile Ala Trp Ile Asp Ser Glu Glu Gly Phe Gln
610 615 620

Thr Leu Lys Ser Ala Phe Asp Lys Thr Ser Ala His Val Asn Leu Leu
625 630 635 640

Ser Val Phe Ala Cys Pro Ala Gly Arg Tyr Ile His Ile Arg Phe Ala
645 650 655

Ala Arg Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Ala Thr
660 665 670

Asp Ser Ala Leu His Cys Leu Lys Lys Tyr Phe Ser Asn Met Gln Val
675 680 685

Ile Ser Leu Ser Gly Asn Met Cys Thr Asp Lys Lys Pro Ala Thr Ile
690 695 700

Asn Thr Ile Leu Gly Arg Gly Lys Ser Val Ile Ala Glu Ala His Leu
705 710 715 720

Ser Ala Asp Val Leu Ala Gln Val Leu His Thr Asn Ala Gln Arg Leu
725 730 735

Ala Arg Leu Thr His Ser Lys Asn Trp Ile Gly Ser Ala Met Ala Gly
740 745 750

Cys Pro Gly Met Met Gly Cys Asn Ala His Ala Ala Asn Ile Ile Ala
755 760 765

Gly Met Phe Ala Ala Thr Gly Gln Asp Leu Ala Gln Val Val Asp Ser
770 775 780

Ser Ser Cys Leu Thr Gln Leu Glu Val Asp Leu Ser Asp Asp Ser Leu
785 790 795 800

Val Ala Ser Val Thr Met Pro Cys Leu Glu Val Gly Thr Val Gly Gly
805 810 815

Gly Thr Arg Leu Ser Gly Gln Arg Ala Cys Leu Asp Leu Leu Asp Leu
820 825 830

Ser Val Asp Arg Pro Thr Glu His Leu Ser Arg Ile Ile Ala Gly Thr
835 840 845

Val Leu Ala Ala Glu Leu Ser Leu Met Ala Ala Leu Asp Thr Asp Asp
850 855 860

Leu Val Lys Ala His Met His Phe Asn Arg Ala Lys Gln Ser Thr Asn
865 870 875 880

Ser His Ser Cys Ser His Ser Thr Thr Thr Asp Asn Asn Asp Asn Ile
885 890 895

Ser Asn Ile Tyr Asp Asn His Asn Val Ala Leu Ser Ser Lys Ile Pro
900 905 910

Val Thr Asp Asn Ser Asp Ile Arg Glu Ser Val His Ser Leu His Val
915 920 925

Lys Pro Phe Pro Val Lys Ser Asp Leu Ser Val Asn Pro Glu Ile Ser
930 935 940

His Tyr Thr Met
945

<210> 222
<211> 44
<212> PRT
<213> Pseudomonas mevalonii

<400> 222

His Ala Arg Asn Ile Ala Val Val Ala Gly Ala Arg Gly Asp Glu Val
1 5 10 15

Asp Trp Val Ala Arg Gln Leu Val Glu Tyr His Asp Val Arg Ala Asp
20 25 30

Arg Ala Val Ala Val Leu Lys Gln Lys Arg Gly Gln
35 40

<210> 223
<211> 428
<212> PRT
<213> Pseudomonas mevalonii

<400> 223

Met Ser Leu Asp Ser Arg Leu Pro Ala Phe Arg Asn Leu Ser Pro Ala
1 5 10 15

Ala Arg Leu Asp His Ile Gly Gln Leu Leu Gly Leu Ser His Asp Asp
20 25 30

Val Ser Leu Leu Ala Asn Ala Gly Ala Leu Pro Met Asp Ile Ala Asn
35 40 45

Gly Met Ile Glu Asn Val Ile Gly Thr Phe Glu Leu Pro Tyr Ala Val
50 55 60

Ala Ser Asn Phe Gln Ile Asn Gly Arg Asp Val Leu Val Pro Leu Val
65 70 75 80

Val Glu Glu Pro Ser Ile Val Ala Ala Ala Ser Tyr Met Ala Lys Leu
85 90 95

Ala Arg Ala Asn Gly Gly Phe Thr Thr Ser Ser Ser Ala Pro Leu Met
100 105 110

His Ala Gln Val Gln Ile Val Gly Ile Gln Asp Pro Leu Asn Ala Arg
115 120 125

Leu Ser Leu Leu Arg Arg Lys Asp Glu Ile Ile Glu Leu Ala Asn Arg
130 135 140

Lys Asp Gln Leu Leu Asn Ser Leu Gly Gly Gly Cys Arg Asp Ile Glu
145 150 155 160

Val His Thr Phe Ala Asp Thr Pro Arg Gly Pro Met Leu Val Ala His
165 170 175

Leu Ile Val Asp Val Arg Asp Ala Met Gly Ala Asn Thr Val Asn Thr
180 185 190

Met Ala Glu Ala Val Ala Pro Leu Met Glu Ala Ile Thr Gly Gly Gln
195 200 205

Val Arg Leu Arg Ile Leu Ser Asn Leu Ala Asp Leu Arg Leu Ala Arg
210 215 220

Ala Gln Val Arg Ile Thr Pro Gln Gln Leu Glu Thr Ala Glu Phe Ser
225 230 235 240

Gly Glu Ala Val Ile Glu Gly Ile Leu Asp Ala Tyr Ala Phe Ala Ala
245 250 255

Val Asp Pro Tyr Arg Ala Ala Thr His Asn Lys Gly Ile Met Asn Gly
260 265 270

Ile Asp Pro Leu Ile Val Ala Thr Gly Asn Asp Trp Arg Ala Val Glu
275 280 285

Ala Gly Ala His Ala Tyr Ala Cys Arg Ser Gly His Tyr Gly Ser Leu
290 295 300

Thr Thr Trp Glu Lys Asp Asn Asn Gly His Leu Val Gly Thr Leu Glu
305 310 315 320

Met Pro Met Pro Val Gly Leu Val Gly Gly Ala Thr Lys Thr His Pro
325 330 335

Leu Ala Gln Leu Ser Leu Arg Ile Leu Gly Val Lys Thr Ala Gln Ala
340 345 350

Leu Ala Glu Ile Ala Val Ala Val Gly Leu Ala Gln Asn Leu Gly Ala
355 360 365

Met Arg Ala Leu Ala Thr Glu Gly Ile Gln Arg Gly His Met Ala Leu
370 375 380

His Ala Arg Asn Ile Ala Val Val Ala Gly Ala Arg Gly Asp Glu Val
385 390 395 400

Asp Trp Val Ala Arg Gln Leu Val Glu Tyr His Asp Val Arg Ala Asp
405 410 415

Arg Ala Val Ala Leu Leu Lys Gln Lys Arg Gly Gln
420 425

<210> 224

<211> 562

<212> PRT

<213> Arabidopsis thaliana

<400> 224

Met Glu Asp Leu Arg Arg Arg Phe Pro Thr Lys Lys Asn Gly Glu Glu
1 5 10 15

Ile Ser Asn Val Ala Val Asp Pro Pro Leu Arg Lys Ala Ser Asp Ala
20 25 30

Leu Pro Leu Pro Leu Tyr Leu Thr Asn Thr Phe Phe Leu Ser Leu Phe
35 40 45

Phe Ala Thr Val Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys Ile Arg
50 55 60

Asn Ser Thr Pro Leu His Val Val Asp Leu Ser Glu Ile Cys Ala Leu
65 70 75 80

Ile Gly Phe Val Ala Ser Phe Ile Tyr Leu Leu Gly Phe Cys Gly Ile
85 90 95

Asp Leu Ile Phe Arg Ser Ser Ser Asp Asp Asp Val Trp Val Asn Asp
100 105 110

Gly Met Ile Pro Cys Asn Gln Ser Leu Asp Cys Arg Glu Val Leu Pro
115 120 125

Ile Lys Pro Asn Ser Val Asp Pro Pro Arg Glu Ser Glu Leu Asp Ser
130 135 140

Val Glu Asp Glu Glu Ile Val Lys Leu Val Ile Asp Gly Thr Ile Pro
145 150 155 160

Ser Tyr Ser Leu Glu Thr Lys Leu Gly Asp Cys Lys Arg Ala Ala Ala
165 170 175

Ile Arg Arg Glu Ala Val Gln Arg Ile Thr Gly Lys Ser Leu Thr Gly
180 185 190

Leu Pro Leu Glu Gly Phe Asp Tyr Asn Ser Ile Leu Gly Gln Cys Cys
195 200 205

Glu Met Pro Val Gly Tyr Val Gln Ile Pro Val Gly Ile Ala Gly Pro
210 215 220

Leu Leu Leu Asp Gly Val Glu Tyr Ser Val Pro Met Ala Thr Thr Glu
225 230 235 240

Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Phe Lys Ala Ile His Leu
245 250 255

Ser Gly Gly Ala Phe Ser Val Leu Val Lys Asp Ala Met Thr Arg Ala
260 265 270

Pro Val Val Arg Phe Pro Ser Ala Arg Arg Ala Ala Leu Val Met Phe
275 280 285

Tyr Leu Gln Asp Pro Ser Asn Phe Glu Arg Leu Ser Leu Ile Phe Asn
290 295 300

Lys Ser Ser Arg Phe Ala Arg Leu Gln Ser Ile Thr Cys Thr Ile Ala
305 310 315 320

Gly Arg Asn Leu Tyr Pro Arg Phe Ala Cys Ser Thr Gly Asp Ala Met
325 330 335

Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val Leu Asp Phe Val
340 345 350

Lys Ser Glu Phe Pro Asp Met Asp Val Ile Gly Ile Ser Gly Asn Tyr
355 360 365

Cys Ser Asp Lys Lys Ala Ser Ala Val Asn Trp Ile Glu Gly Arg Gly
370 375 380

Lys His Val Val Cys Glu Ala Phe Ile Lys Ala Glu Ile Val Glu Lys
385 390 395 400

Val Leu Lys Thr Ser Val Glu Ala Leu Val Glu Leu Asn Thr Leu Lys
405 410 415

Asn Leu Val Gly Ser Ala Met Ala Gly Ser Leu Gly Gly Phe Asn Ala
420 425 430

His Ser Ser Asn Ile Val Ser Ala Val Phe Ile Ala Thr Gly Gln Asp
435 440 445

Pro Ala Gln Asn Val Glu Ser Ser His Cys Met Thr Met Ile Leu Pro
450 455 460

Asp Gly Asp Asp Leu His Ile Ser Val Ser Met Pro Cys Ile Glu Val
465 470 475 480

Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ala Ala Cys Leu
485 490 495

Asn Leu Leu Gly Val Lys Gly Ser Asn Asn Glu Lys Pro Gly Ser Asn
500 505 510

Ala Gln Gln Leu Ala Arg Ile Val Ala Gly Ser Val Leu Ala Gly Glu
515 520 525

Leu Ser Leu Met Ser Ala Ile Ala Ala Gly Gln Leu Val Lys Ser His
530 535 540

Met Lys Tyr Asn Arg Ser Ser Arg Asp Ile Gly Pro Ser Ser Gln Val
545 550 555 560

Asn Arg

<210> 225
 <211> 887
 <212> PRT
 <213> Mesocricetus auratus

<400> 225

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
 1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
 20 25 30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
 35 40 45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
 50 55 60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
 65 70 75 80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
 85 90 95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
 100 105 110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
 115 120 125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Ala Leu Ala Lys Phe Ala
 130 135 140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
 145 150 155 160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
 165 170 175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
 180 185 190

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
 195 200 205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
 210 215 220

Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
 225 230 235 240

Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
 245 250 255

Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
 260 265 270

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Thr Glu His Ser Lys
 275 280 285

Val Ser Leu Gly Leu Asp Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
 290 295 300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
 305 310 315 320

Glu Gln Val Val Thr Leu Ser Leu Ala Phe Leu Leu Ala Val Lys Tyr
 325 330 335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
 340 345 350

Pro Ile Thr Ser Pro Val Ala Thr Pro Lys Lys Ala Pro Asp Asn Cys
 355 360 365

Cys Arg Arg Glu Pro Val Leu Ser Arg Arg Asn Glu Lys Leu Ser Ser
 370 375 380

Val Glu Glu Glu Pro Gly Val Asn Gln Asp Arg Lys Val Glu Val Ile
 385 390 395 400

Lys Pro Leu Val Ala Glu Thr Glu Ser Thr Ser Arg Ala Thr Phe Val
 405 410 415

Leu Gly Ala Ser Gly Gly Cys Ser Pro Val Ala Lys Gly Thr Gln Glu
 420 425 430

Pro Glu Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
 435 440 445

Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
 450 455 460

Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu
465 470 475 480

Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg Gln
485 490 495

Leu Leu Ser Thr Lys Leu Pro Glu Pro Ser Ser Leu Gln Tyr Leu Pro
500 505 510

Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn
515 520 525

Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Cys
530 535 540

Leu Asp Gly Lys Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys
545 550 555 560

Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly Gly
565 570 575

Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val
580 585 590

Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp Leu
595 600 605

Glu Thr Pro Glu Gly Phe Ala Val Ile Lys Asp Ala Phe Asp Ser Thr
610 615 620

Ser Arg Phe Ala Arg Leu Gln Lys Leu His Val Thr Met Ala Gly Arg
625 630 635 640

Asn Leu Tyr Ile Arg Phe Gln Ser Lys Thr Gly Asp Ala Met Gly Met
645 650 655

Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Val Lys Leu Gln Glu
660 665 670

Phe Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr
675 680 685

Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Thr
690 695 700

Val Val Cys Glu Ala Val Ile Pro Ala Arg Val Val Arg Glu Val Leu
705 710 715 720

Lys Thr Thr Thr Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn Leu
725 730 735

Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala
740 745 750

Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala
755 760 765

Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly
770 775 780

Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu
785 790 795 800

Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys
805 810 815

Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu
820 825 830

Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly
835 840 845

Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser
850 855 860

His Met Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly
865 870 875 880

Thr Cys Thr Lys Lys Ala Ala
885

<210> 226
<211> 34
<212> PRT
<213> Rattus norvegicus

<400> 226

Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Thr Pro Pro Leu
1 5 10 15

Ala Val Gly Ala Gln Glu Pro Gly Ile Glu Leu Pro Ser Glu Pro Arg
20 25 30

Pro Asn

<210> 227
<211> 1053
<212> PRT
<213> Schizosaccharomyces pombe

<400> 227

Met Ile Tyr Lys Leu Ala Ala Arg Tyr Pro Ile Gln Val Ile Ala Ile
1 5 10 15

Val Gly Ile Leu Val Ser Met Ala Tyr Phe Ser Phe Leu Glu Ala Leu
20 25 30

Thr Gln Glu Asp Phe Pro Val Leu Ile Arg Ala Leu Lys Arg Phe Gly
35 40 45

Ile Leu Asp Gly Phe Pro Asn Thr Arg Leu Pro Asn Glu Met Ile Leu
50 55 60

Lys Leu Ser Ser Val Gln Gly Glu Asp Ala Ser Val Trp Glu Gln Ile
65 70 75 80

Pro Ala Ala Glu Leu Gly Gly Glu Gly Phe Val Asp Phe Asp Ile Thr
85 90 95

Gln Trp Tyr Tyr Pro Ala Asn Ala Lys Val Asp Val Ala Gln Leu Val
100 105 110

Glu Pro Tyr Arg Asn Asp Cys Ile Phe His Asp Ala Ser Gly Ala Cys
115 120 125

His Phe Phe Phe Lys Glu Val Gly Asn Trp Thr Val Ser Ser Ile Ala
130 135 140

Leu Pro Ser Asn Leu Ala Asn Pro Pro Ile Asp Tyr Phe Leu Asp Ser
145 150 155 160

Ser Ser Thr Val Ile Gln Arg Ile Leu Pro Ala Ile Arg Glu His Gly
165 170 175

Ile Ser Trp Ser Trp Leu Leu Gln Leu Ile Ala Arg Thr Trp Met Asn
180 185 190

Thr Leu Lys Ile Ala Ser Gln Ala Ser Lys Thr Glu Leu Leu Ile Val
 195 200 205
 Gly Thr Ala Tyr Ala Cys Met Leu Ile Ser Ile Val Ser Leu Tyr Leu
 210 215 220
 Lys Met Arg Arg Leu Gly Ser Lys Phe Trp Leu Phe Phe Ser Val Leu
 225 230 235 240
 Leu Ser Thr Leu Phe Ser Val Gln Phe Ala Met Thr Leu Val Arg Ala
 245 250 255
 Ser Gly Val Arg Ile Ser Leu Val Ser Leu Ile Glu Ser Leu Pro Phe
 260 265 270
 Leu Ile Asn Val Val Ala Leu Asp Lys Ala Ala Glu Leu Thr Arg Gln
 275 280 285
 Val Ile Thr Arg Cys Ser Val Ser Asp Ser His Ser Pro Met His Glu
 290 295 300
 Asp Ile Ala Lys Ala Cys Arg Asn Ala Ala Pro Pro Ile Leu Arg His
 305 310 315 320
 Phe Ser Phe Gly Ile Val Val Leu Ala Ile Phe Ser Tyr Cys Asn Phe
 325 330 335
 Gly Ile Lys Gln Phe Phe Leu Phe Ala Ala Val Met Ile Tyr Asp Leu
 340 345 350
 Leu Leu Leu Phe Ser Phe Phe Val Ala Ile Leu Thr Leu Lys Leu Glu
 355 360 365
 Met Arg Arg Tyr Asn Ala Lys Asp Asp Val Arg Lys Val Leu Ile Glu
 370 375 380
 Glu Gly Leu Ser Glu Ser Thr Ala Arg His Val Ala Asp Gly Asn Asp
 385 390 395 400
 Ser Ser Ala Thr Thr Ser Ala Gly Ser Arg Tyr Phe Lys Val Arg Tyr
 405 410 415
 Gly Thr Lys Ile Ile Leu Phe Ile Phe Ile Ala Phe Asn Leu Phe Glu
 420 425 430
 Leu Cys Ser Ile Pro Phe Lys His Tyr Ala Ala Thr Ser Ala Ala Ala

435		440		445
Ala Arg Leu Ile Pro Leu Val Arg Ser Gln Tyr Pro Asp Phe Lys Ser	450	455	460	
Gln Arg Leu Leu Asp Asp Gly Val Phe Asp Asp Val Leu Ser Ala Ile	465	470	475	480
Ser Ser Met Ser Asn Ile Glu Ser Pro Ser Val Arg Leu Leu Pro Ala	485	490	495	
Val Phe Tyr Gly Ala Glu Leu Ser Ser Thr Ser Phe Leu Ser Thr Ile	500	505	510	
His Ser Phe Ile Asn Asn Trp Ser His Tyr Ile Ser Ala Ser Phe Leu	515	520	525	
Ser Lys Trp Ile Val Cys Ala Leu Ser Leu Ser Ile Ala Val Asn Val	530	535	540	
Phe Leu Leu Asn Ala Ala Arg Leu Asn Ser Ile Lys Glu Glu Pro Glu	545	550	555	560
Lys Lys Val Val Glu Lys Val Val Glu Val Val Lys Tyr Ile Pro Ser	565	570	575	
Ser Asn Ser Ser Ser Ile Asp Asp Ile Gln Lys Asp Glu Ile Ala Gln	580	585	590	
Glu Ser Val Val Arg Ser Leu Glu Glu Cys Ile Thr Leu Tyr Asn Asn	595	600	605	
Gly Gln Ile Ser Thr Leu Asn Asp Glu Glu Val Val Gln Leu Thr Leu	610	615	620	
Ala Lys Lys Ile Pro Leu Tyr Ala Leu Glu Arg Val Leu Lys Asp Val	625	630	635	640
Thr Arg Ala Val Val Ile Arg Arg Thr Val Val Ser Arg Ser Ser Arg	645	650	655	
Thr Lys Thr Leu Glu Ser Ser Asn Cys Pro Val Tyr His Tyr Asp Tyr	660	665	670	
Ser Arg Val Leu Asn Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro	675	680	685	

Leu Pro Leu Gly Val Ala Gly Pro Leu Ile Ile Asp Gly Lys Pro Phe
690 695 700

Tyr Ile Pro Met Ala Thr Thr Glu Gly Ala Leu Val Ala Ser Thr Met
705 710 715 720

Arg Gly Cys Lys Ala Ile Asn Ala Gly Gly Gly Ala Val Thr Val Leu
725 730 735

Thr Arg Asp Gln Met Ser Arg Gly Pro Cys Val Ala Phe Pro Asp Leu
740 745 750

Thr Arg Ala Gly Arg Ala Lys Ile Trp Leu Asp Ser Pro Glu Gly Gln
755 760 765

Glu Val Met Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala Arg Leu
770 775 780

Gln His Ile Lys Thr Ala Leu Ala Gly Thr Arg Leu Phe Ile Arg Phe
785 790 795 800

Cys Thr Ser Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys Gly
805 810 815

Val Glu His Ala Leu Val Val Met Ser Asn Asp Ala Gly Phe Asp Asp
820 825 830

Met Gln Val Ile Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro
835 840 845

Ala Ala Ile Asn Trp Ile Asp Gly Arg Gly Lys Ser Val Ile Ala Glu
850 855 860

Ala Ile Ile Pro Gly Asp Ala Val Lys Ser Val Leu Lys Thr Thr Val
865 870 875 880

Glu Asp Leu Val Lys Leu Asn Val Asp Lys Asn Leu Ile Gly Ser Ala
885 890 895

Met Ala Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn Ile Val
900 905 910

Thr Ala Val Tyr Leu Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu
915 920 925

Ser Ser Asn Cys Ile Thr Leu Met Asp Asn Val Asp Gly Asn Leu Gln
 930 935 940

Leu Ser Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly Gly Gly
 945 950 955 960

Thr Val Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly Val Arg
 965 970 975

Gly Ala His Met Thr Ser Pro Gly Asp Asn Ser Arg Gln Leu Ala Arg
 980 985 990

Val Val Ala Ala Ala Val Met Ala Gly Glu Leu Ser Leu Cys Ser Ala
 995 1000 1005

Leu Ala Ser Gly His Leu Val Lys Ser His Ile Gly Leu Asn Arg
 1010 1015 1020

Ser Ala Leu Asn Thr Pro Ala Met Asp Ser Ser Ala Lys Lys Pro
 1025 1030 1035

Ala Thr Asp Ala Leu Lys Ser Val Asn Ser Arg Val Pro Gly Arg
 1040 1045 1050

<210> 228

<211> 574

<212> PRT

<213> Solanum tuberosum

<400> 228

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Pro Ser Glu His
 1 5 10 15

Ile Ser Ser Gly Glu Pro Leu Lys Pro His Asn Gln Asp Ser Ser Val
 20 25 30

Lys Ala Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Gly Leu
 35 40 45

Phe Phe Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu His Arg Trp
 50 55 60

Arg Glu Lys Ile Arg Asn Gly Ile Pro Leu His Val Leu Asn Phe Ser
 65 70 75 80

Glu Leu Val Ala Met Val Ser Leu Ile Ala Ser Val Ile Tyr Leu Leu

85								90					95					
Gly	Phe	Phe	Gly	Ile	Gly	Phe	Val	Gln	Ser	Phe	Val	Ser	Lys	Gly	Asn			
			100					105					110					
Asn	Asp	Ser	Trp	Asp	Val	Glu	Asp	Glu	Ser	Pro	Glu	Gln	Phe	Ile	Asp			
		115					120					125						
Arg	Thr	Val	Thr	Pro	Pro	Pro	Val	Arg	Arg	Asn	Ile	Pro	Met	Lys	Ser			
	130						135				140							
Val	Pro	Val	Ala	Glu	Lys	Thr	Ala	Gln	Ile	Ile	Thr	Pro	Phe	Ser	Ser			
145					150					155					160			
Glu	Asp	Asp	Glu	Val	Val	Ile	Lys	Ser	Val	Val	Glu	Gly	Arg	Ile	Pro			
				165					170					175				
Ser	Tyr	Ser	Leu	Glu	Ser	Lys	Leu	Gly	Asp	Cys	Lys	Arg	Ala	Ala	Phe			
			180					185					190					
Ile	Arg	Lys	Glu	Ala	Leu	Gln	Arg	Ser	Ser	Gly	Lys	Ser	Leu	Glu	Gly			
		195					200					205						
Leu	Pro	Leu	Asp	Gly	Phe	Asp	Tyr	Glu	Ser	Ile	Leu	Gly	Gln	Cys	Cys			
	210					215					220							
Glu	Met	Pro	Ile	Gly	Tyr	Ile	Gln	Ile	Pro	Val	Gly	Ile	Ala	Gly	Pro			
225					230					235					240			
Leu	Leu	Leu	Asn	Gly	Lys	Glu	Phe	Ser	Val	Pro	Met	Ala	Thr	Thr	Glu			
				245					250					255				
Gly	Cys	Leu	Val	Ala	Ser	Thr	Asn	Arg	Gly	Cys	Lys	Ala	Ile	Tyr	Val			
			260					265					270					
Ser	Gly	Gly	Ala	Thr	Ser	Val	Leu	Phe	Arg	Asp	Ala	Met	Thr	Arg	Ala			
		275					280					285						
Pro	Val	Val	Arg	Phe	Gly	Ser	Ala	Lys	Arg	Ala	Ala	Glu	Leu	Lys	Phe			
	290					295					300							
Phe	Val	Glu	Asp	Pro	Met	Asn	Phe	Glu	Thr	Leu	Ser	Val	Val	Phe	Asn			
305					310					315					320			
Lys	Ser	Ser	Arg	Phe	Ala	Arg	Leu	Gln	Asn	Ile	Gln	Cys	Ala	Ile	Ala			
				325					330					335				

Gly Lys Asn Leu Tyr Met Arg Phe Ser Cys Ser Thr Gly Asp Ala Met
 340 345 350

Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val Leu Asp Tyr Leu
 355 360 365

Gln Asn Glu Tyr Pro Asp Met Asp Ile Ile Gly Ile Ser Gly Asn Tyr
 370 375 380

Cys Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly
 385 390 395 400

Lys Ser Val Val Cys Glu Ala Ile Ile Lys Glu Asp Val Val Lys Lys
 405 410 415

Val Leu Lys Thr Glu Val Ala Thr Leu Val Glu Leu Asn Met Leu Lys
 420 425 430

Asn Leu Thr Gly Ser Ala Met Ala Gly Ala Leu Gly Gly Phe Asn Ala
 435 440 445

His Ala Ser Asn Ile Val Ser Ala Val Tyr Leu Ala Thr Gly Gln Asp
 450 455 460

Pro Ala Gln Asn Ile Glu Ser Ser His Cys Ile Thr Met Met Glu Ala
 465 470 475 480

Val Asn Asp Gly Lys Asp Leu His Ile Ser Val Thr Met Pro Ser Ile
 485 490 495

Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ser Ala
 500 505 510

Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Asn Arg Glu Ala Pro Gly
 515 520 525

Ser Asn Ala Arg Leu Leu Ala Thr Ile Val Ala Gly Ser Val Leu Ala
 530 535 540

Gly Glu Leu Ser Leu Met Ser Ala Ile Ser Ala Gly Gln Leu Val Lys
 545 550 555 560

Ser His Met Lys Tyr Asn Arg Ser Cys Lys Asp Val Thr Lys
 565 570

<210> 229
<211> 18
<212> PRT
<213> Solanum tuberosum

<400> 229

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Pro Ser Glu His
1 5 10 15

Ile Ser

<210> 230
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 230

Met Asp Val Cys Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1 5 10 15

Ala Phe Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
20 25 30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
35 40 45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
50 55 60

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65 70 75 80

Leu Ala

<210> 231
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 231

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1 5 10 15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
20 25 30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Arg Leu Phe Phe
35 40 45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
50 55 60

Lys Ile Arg Asn Ser Ile Pro Phe His Val Val Thr Leu Ser Glu Leu
65 70 75 80

Leu Ala

<210> 232
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 232

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1 5 10 15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
20 25 30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
35 40 45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
50 55 60

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65 70 75 80

Leu Ala

<210> 233
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 233

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1 5 10 15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
20 25 30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
 35 40 45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Ile Arg Trp Arg Glu
 50 55 60

Lys Ile Arg Asn Ser Ile Pro Leu His Ala Val Thr Leu Ser Glu Leu
 65 70 75 80

Leu Ala

<210> 234
 <211> 244
 <212> PRT
 <213> Rattus norvegicus

<220>
 <221> MISC_FEATURE
 <222> (1)..(244)
 <223> X equals unknown

<400> 234

Pro Ile Arg Ser Pro Lys Arg Gly Thr Ser Met Gly Met Asn Met Ile
 1 5 10 15

Ser Lys Gly Thr Glu Lys Ala Leu Leu Lys Leu Gln Glu Phe Phe Pro
 20 25 30

Glu Leu Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys
 35 40 45

Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Thr Val Val Cys
 50 55 60

Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val Leu Lys Ser Thr
 65 70 75 80

Thr Glu Ala Met Val Asp Val Asn Ile Asn Lys Asn Leu Val Gly Ser
 85 90 95

Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala Ala Asn Ile
 100 105 110

Val Thr Ala Ile Tyr Ile Ala Cys Ala Gln Asp Ala Ala Gln Asn Val
 115 120 125

Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly Pro Xaa Xaa
 130 135 140

Glu Asp Leu Xaa Xaa Ser Xaa Xaa Met Pro Ser Ile Glu Ile Gly Thr
 145 150 155 160

Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys Leu Gln Met
 165 170 175

Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg
 180 185 190

Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly Glu Leu Ser
 195 200 205

Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser His Met Val
 210 215 220

His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly Thr Cys Thr
 225 230 235 240

Lys Lys Ala Ala

<210> 235

<211> 436

<212> PRT

<213> Archaeoglobus fulgidus

<400> 235

Met Gln Val Leu Arg Leu Asp Arg Arg His Tyr Lys Ser Gly Lys Ile
 1 5 10 15

Arg Arg Ala Met Ser Ser Arg Ile Pro Gly Phe Tyr Lys Leu Ser Val
 20 25 30

Glu Glu Arg Leu Lys Lys Val Ala Glu Phe Ala Gly Leu Ser Asp Glu
 35 40 45

Glu Val Lys Ala Val Leu Ser Gln Gly Leu Pro Leu Asp Val Ala Asp
 50 55 60

Arg Met Ile Glu Asn Val Ile Gly Thr Phe Glu Leu Pro Leu Gly Ile
 65 70 75 80

Ala Thr Asn Phe Leu Ile Asp Gly Lys Asp Tyr Leu Ile Pro Met Ala
 85 90 95

Ile Glu Glu Pro Ser Val Val Ala Ala Ala Ser Asn Ala Ala Arg Met
 100 105 110

Ala Arg Glu Ser Gly Gly Phe Thr Thr Asp Tyr Thr Gly Ser Leu Met
 115 120 125

Ile Gly Gln Ile Gln Val Thr Lys Leu Leu Asn Pro Asn Ala Ala Lys
 130 135 140

Phe Glu Val Leu Arg Gln Lys Asp Glu Ile Ile Glu Arg Ala Asn Glu
 145 150 155 160

Cys Asp Pro Met Leu Val Asn Leu Gly Gly Gly Cys Lys Asp Ile Glu
 165 170 175

Ala Arg Val Ile Asp Thr Ile Met Gly Lys Met Leu Ile Val His Leu
 180 185 190

Ile Val Asp Val Lys Asp Ala Met Gly Ala Asn Ala Val Asn Thr Met
 195 200 205

Cys Glu Lys Val Ala Pro Phe Ile Glu Arg Ile Thr Gly Gly Lys Val
 210 215 220

Tyr Leu Arg Ile Ile Ser Asn Leu Ala Ala Tyr Arg Leu Ala Arg Ala
 225 230 235 240

Lys Ala Val Phe Asp Lys Asp Val Ile Gly Gly Glu Glu Val Val Glu
 245 250 255

Gly Ile Met Leu Ala Tyr Ala Phe Ala Ala Ala Asp Pro Phe Arg Cys
 260 265 270

Ala Thr His Asn Lys Gly Ile Met Asn Gly Ile Ser Ala Leu Met Ile
 275 280 285

Ala Thr Gly Asn Asp Phe Arg Ala Ile Glu Ala Gly Ala His Ser Tyr
 290 295 300

Ala Ala Ile Gly Gly Tyr Lys Pro Leu Thr Thr Tyr Glu Val Asp Arg
 305 310 315 320

Lys Gly Asn Leu Val Gly Thr Ile Glu Ile Pro Met Ala Val Gly Val

Ala Arg Ala Asn Gly Gly Phe Thr Thr Ser Ser Ser Ala Pro Leu Met
 100 105 110

His Ala Gln Val Gln Ile Val Gly Ile Gln Asp Pro Leu Asn Ala Arg
 115 120 125

Leu Ser Leu Leu Arg Arg Lys Asp Glu Ile Ile Glu Leu Ala Asn Arg
 130 135 140

Lys Asp Gln Leu Leu Asn Ser Leu Gly Gly Gly Cys Arg Asp Ile Glu
 145 150 155 160

Val His Thr Phe Ala Asp Thr Pro Arg Gly Pro Met Leu Val Ala His
 165 170 175

Leu Ile Val Asp Val Arg Asp Ala Met Gly Ala Asn Thr Val Asn Thr
 180 185 190

Met Ala Glu Ala Val Ala Pro Leu Met Glu Ala Ile Thr Gly Gly Gln
 195 200 205

Val Arg Leu Arg Ile Leu Ser Asn Leu Ala Asp Leu Arg Leu Ala Arg
 210 215 220

Ala Gln Val Arg Ile Thr Pro Gln Gln Leu Glu Thr Ala Glu Phe Ser
 225 230 235 240

Gly Glu Ala Val Ile Glu Gly Ile Leu Asp Ala Tyr Ala Phe Ala Ala
 245 250 255

Val Asp Pro Tyr Arg Ala Ala Thr His Asn Lys Gly Ile Met Asn Gly
 260 265 270

Ile Asp Pro Leu Ile Val Ala Thr Gly Asn Asp Trp Arg Ala Val Glu
 275 280 285

Ala Gly Ala His Ala Tyr Ala Cys Arg Ser Gly His Tyr Gly Ser Leu
 290 295 300

Thr Thr Trp Glu Lys Asp Asn Asn Gly His Leu Val Gly Thr Leu Glu
 305 310 315 320

Met Pro Met Pro Val Gly Leu Val Gly Gly Ala Thr Lys Thr His Pro
 325 330 335

Leu Ala Gln Leu Ser Leu Arg Ile Leu Gly Val Lys Thr Ala Gln Ala
 340 345 350

Leu Ala Glu Ile Ala Val Ala Val Gly Leu Ala Gln Asn Leu Gly Ala
 355 360 365

Met Arg Ala Leu Ala Thr Glu Gly Ile Gln Arg Gly His Met Ala Leu
 370 375 380

His Ala Arg Asn Ile Ala Val Val Ala Gly Ala Arg Gly Asp Glu Val
 385 390 395 400

Asp Trp Val Ala Arg Gln Leu Val Glu Tyr His Asp Val Arg Ala Asp
 405 410 415

Arg Ala Val Ala Leu Leu Lys Gln Lys Arg Gly Gln
 420 425

<210> 237

<211> 397

<212> PRT

<213> Methanothermobacter thermautotrophicus

<400> 237

Met Ser Ile Met Asp Asp Leu Met Glu Gly Arg Ile Lys Leu Tyr Glu
 1 5 10 15

Ile Glu Arg His Val Pro Val Asp Glu Ala Val Arg Ile Arg Arg Glu
 20 25 30

Phe Ile Glu Arg Thr Cys Gly Val Lys Leu Glu His Val Ser Asn Tyr
 35 40 45

Ser Ile Asp Met Glu Arg Ala Ser Arg Arg Asn Ile Glu Asn Pro Ile
 50 55 60

Gly Val Val Gln Ile Pro Leu Gly Val Ala Gly Pro Leu Arg Val Arg
 65 70 75 80

Gly Glu His Ala Asp Gly Glu Tyr Tyr Val Pro Leu Ala Thr Ser Glu
 85 90 95

Gly Ala Leu Val Ala Ser Val Asn Arg Gly Cys Ser Val Ile Thr Arg
 100 105 110

Ala Gly Gly Ala Thr Val Arg Val Thr Gly Asp Ser Met Thr Arg Ala
 115 120 125

Pro Val Ile Arg Thr Gly Ser Val Val Glu Ala Leu Gln Leu Arg Glu
130 135 140

Trp Ile Tyr Glu Asn Met Asp Ala Leu Arg Glu Glu Ala Glu Ser Thr
145 150 155 160

Thr Arg His Gly Lys Leu Val Lys Ile Asp Pro Ile Ile Val Ala Gly
165 170 175

Ser Tyr Val Tyr Pro Arg Phe Val Tyr Thr Thr Gly Asp Ser Met Gly
180 185 190

Met Asn Met Val Thr Ile Ala Thr Glu Arg Ala Leu Glu Leu Leu Thr
195 200 205

Arg Glu Thr Gly Ala His Val Ile Ala Leu Ser Gly Asn Leu Cys Thr
210 215 220

Asp Lys Lys Pro Ala Ala Val Asn Leu Ile Glu Gly Arg Gly Lys Ser
225 230 235 240

Ile Thr Ala Glu Ile Thr Val Pro Gly Glu Met Val Glu Ser Val Leu
245 250 255

Lys Thr Thr Pro Glu Ala Val Val Glu Val Asn Thr Ala Lys Asn Leu
260 265 270

Ile Gly Ser Ala Ala Ala Gly Ser Met Gly Phe Asn Ala His Tyr Ala
275 280 285

Asn Ile Ile Gly Ala Ile Phe Leu Ala Thr Gly Gln Asp Glu Ala His
290 295 300

Ile Val Glu Gly Ser Leu Gly Val Thr Ile Ala Glu Glu Arg Lys Gly
305 310 315 320

Asp Leu Tyr Phe Ala Val Asn Leu Pro Asp Val Pro Leu Ala Thr Val
325 330 335

Gly Gly Gly Thr Gly Leu Glu Thr Ala Ser Glu Cys Leu Asp Ile Met
340 345 350

Gly Val Arg Gly Gly Gly Arg Val His Ala Phe Ala Glu Ile Val Gly
355 360 365

Gly Ala Val Leu Ala Gly Glu Leu Ser Leu Met Gly Ala Leu Ala Ala
 370 375 380

Gly His Leu Ala Arg Ala His Ser Glu Leu Gly Arg Gly
 385 390 395

<210> 238
 <211> 405
 <212> PRT
 <213> Methanococcus jannaschii

<400> 238

Met Glu Asn Tyr Asn Asp Ile Leu Glu Lys Met Leu Asn Gly Glu Ile
 1 5 10 15

Lys Pro Tyr Gln Leu Asp Lys Met Phe Gly Ser Lys Ile Ala Thr Glu
 20 25 30

Ile Arg Arg Lys Phe Ile Glu Lys Lys Val Gly Ile Glu Phe Lys His
 35 40 45

Ile Cys Asn Tyr Ser Ile Asp Glu Glu Met Ala Met Lys Lys Asn Ile
 50 55 60

Glu Asn Met Ile Gly Ala Ile Gln Ile Pro Leu Gly Phe Ala Gly Pro
 65 70 75 80

Leu Lys Ile Asn Gly Glu Tyr Ala Lys Gly Glu Phe Tyr Ile Pro Leu
 85 90 95

Ala Thr Thr Glu Gly Ala Leu Val Ala Ser Val Asn Arg Gly Cys Ser
 100 105 110

Ile Ile Thr Lys Cys Gly Gly Ala Thr Val Arg Val Ile Asp Asp Lys
 115 120 125

Met Thr Arg Ala Pro Cys Leu Lys Thr Lys Ser Val Val Asp Ala Ile
 130 135 140

Lys Val Arg Asp Trp Ile Arg Glu Asn Phe Glu Arg Ile Lys Glu Val
 145 150 155 160

Ala Glu Ser Thr Thr Arg His Gly Lys Leu Ile Lys Ile Glu Pro Ile
 165 170 175

Leu Ile Val Gly Arg Asn Leu Tyr Pro Arg Phe Val Phe Lys Thr Gly

180					185					190					
Asp	Ala	Met	Gly	Met	Asn	Met	Val	Thr	Ile	Ala	Thr	Glu	Lys	Ala	Cys
	195						200					205			
Asn	Phe	Ile	Glu	Gly	Glu	Leu	Lys	Lys	Glu	Gly	Ile	Phe	Val	Lys	Thr
	210					215					220				
Val	Ala	Val	Ser	Gly	Asn	Ala	Cys	Val	Asp	Lys	Lys	Pro	Ser	Gly	Met
	225					230					235				240
Asn	Leu	Ile	Asn	Gly	Arg	Gly	Lys	Ser	Ile	Val	Ala	Glu	Val	Phe	Leu
				245					250					255	
Thr	Glu	Lys	Glu	Val	Asn	Lys	Tyr	Leu	Lys	Thr	Thr	Ser	Gln	Ala	Ile
			260					265					270		
Ala	Glu	Val	Asn	Arg	Leu	Lys	Asn	Tyr	Ile	Gly	Ser	Ala	Ile	Ser	Asn
		275					280					285			
Ser	Met	Gly	Phe	Asn	Ala	His	Tyr	Ala	Asn	Ile	Ile	Gly	Ala	Ile	Phe
	290					295					300				
Leu	Ala	Thr	Gly	Gln	Asp	Glu	Ala	His	Ile	Val	Glu	Gly	Ser	Leu	Gly
	305					310					315				320
Ile	Thr	Met	Ala	Glu	Val	Glu	Asp	Asp	Gly	Leu	Tyr	Phe	Ser	Val	Thr
				325					330					335	
Leu	Pro	Asp	Val	Pro	Ile	Gly	Thr	Val	Gly	Gly	Gly	Thr	Arg	Val	Glu
			340					345					350		
Thr	Gln	Lys	Glu	Cys	Leu	Glu	Met	Leu	Gly	Cys	Tyr	Gly	Asp	Asn	Lys
		355					360					365			
Ala	Leu	Lys	Phe	Ala	Glu	Ile	Val	Gly	Ala	Ala	Val	Leu	Ala	Gly	Glu
	370					375					380				
Leu	Ser	Leu	Leu	Gly	Ala	Leu	Ala	Ala	Gly	His	Leu	Gly	Lys	Ala	His
	385					390					395				400
Gln	Glu	Leu	Gly	Arg											
				405											

<210> 239

<211> 403

<212> PRT

<213> Haloferax volcanii

<400> 239

Met Thr Asp Ala Ala Ser Leu Ala Asp Arg Val Arg Glu Gly Asp Leu
1 5 10 15

Arg Leu His Glu Leu Glu Ala His Ala Asp Ala Asp Thr Ala Ala Glu
20 25 30

Ala Arg Arg Leu Leu Val Glu Ser Gln Ser Gly Ala Ser Leu Asp Ala
35 40 45

Val Gly Asn Tyr Gly Phe Pro Ala Glu Ala Ala Glu Ser Ala Ile Glu
50 55 60

Asn Met Val Gly Ser Ile Gln Val Pro Met Gly Val Ala Gly Pro Val
65 70 75 80

Ser Val Asp Gly Gly Ser Val Ala Gly Glu Lys Tyr Leu Pro Leu Ala
85 90 95

Thr Thr Glu Gly Ala Leu Leu Ala Ser Val Asn Arg Gly Cys Ser Val
100 105 110

Ile Asn Ser Ala Gly Gly Ala Thr Ala Arg Val Leu Lys Ser Gly Met
115 120 125

Thr Arg Ala Pro Val Phe Arg Val Ala Asp Val Ala Glu Ala Glu Ala
130 135 140

Leu Val Ser Trp Thr Arg Asp Asn Phe Ala Ala Leu Lys Glu Ala Ala
145 150 155 160

Glu Glu Thr Thr Asn His Gly Glu Leu Leu Asp Val Thr Pro Tyr Val
165 170 175

Val Gly Asn Ser Val Tyr Leu Arg Phe Arg Tyr Asp Thr Lys Asp Ala
180 185 190

Met Gly Met Asn Met Ala Thr Ile Ala Thr Glu Ala Val Cys Gly Val
195 200 205

Val Glu Ala Glu Thr Ala Ala Ser Leu Val Ala Leu Ser Gly Asn Leu
210 215 220

Cys Ser Asp Lys Lys Pro Ala Ala Ile Asn Ala Val Glu Gly Arg Gly
 225 230 235 240

Arg Ser Val Thr Ala Asp Val Arg Ile Pro Arg Glu Val Val Glu Glu
 245 250 255

Arg Leu His Thr Thr Pro Glu Arg Gly Arg Glu Leu Asn Thr Arg Lys
 260 265 270

Asn Leu Val Gly Ser Ala Lys Ala Ala Ser Leu Gly Phe Asn Ala His
 275 280 285

Val Ala Asn Val Val Ala Ala Met Phe Leu Ala Thr Gly Gln Asp Glu
 290 295 300

Ala Gln Val Val Glu Gly Ala Asn Ala Ile Thr Thr Ala Glu Val Gln
 305 310 315 320

Asp Gly Asp Leu Tyr Val Ser Val Ser Ile Ala Ser Leu Glu Val Gly
 325 330 335

Thr Val Gly Gly Gly Thr Lys Leu Pro Thr Gln Ser Glu Gly Leu Asp
 340 345 350

Ile Leu Gly Val Ser Gly Gly Gly Asp Pro Ala Gly Ser Asn Ala Asp
 355 360 365

Ala Leu Ala Glu Cys Ile Ala Val Gly Ser Leu Ala Gly Glu Leu Ser
 370 375 380

Leu Leu Ser Ala Leu Ala Ser Arg His Leu Ser Ser Ala His Ala Glu
 385 390 395 400

Leu Gly Arg

<210> 240
 <211> 856
 <212> PRT
 <213> Blattella germanica

<400> 240

Met Val Gly Arg Leu Phe Arg Ala His Gly Gln Phe Cys Ala Ser His
 1 5 10 15

Pro Trp Glu Val Ile Val Ala Thr Leu Thr Leu Thr Val Cys Met Leu
 20 25 30

Thr Val Asp Gln Arg Pro Leu Gly Leu Pro Pro Gly Trp Gly His Asn
 35 40 45

Cys Ile Thr Leu Glu Glu Tyr Asn Ala Ala Asp Met Ile Val Met Thr
 50 55 60

Leu Ile Arg Cys Val Ala Val Leu Tyr Ser Tyr Tyr Gln Phe Cys His
 65 70 75 80

Leu Gln Lys Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly Leu Phe
 85 90 95

Thr Val Phe Ser Ser Phe Val Phe Ser Ser Ser Val Ile Asn Phe Leu
 100 105 110

Gly Ser Asp Val Ser Asp Leu Lys Asp Ala Leu Phe Phe Phe Leu Leu
 115 120 125

Leu Ile Asp Leu Ser Lys Ala Thr Val Leu Ala Gln Phe Ala Leu Ser
 130 135 140

Ser Arg Ser Gln Asp Glu Val Lys His Asn Ile Ala Arg Gly Ile Ala
 145 150 155 160

Met Leu Gly Pro Thr Ile Thr Leu Asp Thr Val Val Glu Thr Leu Val
 165 170 175

Ile Gly Val Gly Met Leu Ser Gly Val Arg Arg Leu Glu Val Leu Cys
 180 185 190

Cys Phe Ala Cys Met Ser Val Ile Val Asn Tyr Val Val Phe Met Thr
 195 200 205

Phe Tyr Pro Ala Cys Leu Ser Leu Ile Leu Glu Leu Ser Arg Ser Gly
 210 215 220

Glu Ser Gly Arg Pro Ala Trp His Asp Lys Ser Leu Ile Ile Lys Ala
 225 230 235 240

Leu His Glu Glu Asp Gln Lys Pro Asn Pro Val Val Gln Arg Val Lys
 245 250 255

Val Ile Met Ser Ala Gly Leu Met Leu Val His Ala His Arg Trp Val
 260 265 270

Arg Cys Leu Ser Ile Ala Leu Trp Pro Asp Leu Thr Ser Leu Arg Tyr
 275 280 285

Phe Cys Thr His Cys Asp Thr Gly Val Ser Tyr Ser Arg Trp Ser Phe
 290 295 300

Ala Ser Glu Gly Glu Glu Leu Pro Thr Val Lys Leu Val Thr Gly Asp
 305 310 315 320

Ser Val Val Asn Ser Asn Ser Thr Asp Asp Ala Gln Leu His Tyr Tyr
 325 330 335

Ile Met Arg Trp Leu Thr Val Ser Ala Asp His Ile Val Ile Leu Ile
 340 345 350

Leu Leu Leu Ala Leu Ala Val Lys Phe Val Phe Phe Glu Thr Arg Asp
 355 360 365

Glu Leu Thr Thr Thr Arg Gly Met Asp Gly Trp Val Glu Val Ser Ser
 370 375 380

Pro Val Glu His Lys Tyr Val Gln Thr Glu Gln Pro Ser Cys Ser Ala
 385 390 395 400

Pro Glu Gln Pro Leu Glu Glu Pro Pro Ala Ser Asn Arg Ser Ile Asp
 405 410 415

Glu Cys Leu Ser Val Cys Lys Ser Asp Val Gly Ala Gln Ala Leu Ser
 420 425 430

Asp Cys Glu Val Met Ala Leu Val Thr Ser Gly His Ile Ala Gly Tyr
 435 440 445

Gln Leu Glu Lys Val Val Arg Asn Pro Glu Arg Gly Val Gly Ile Arg
 450 455 460

Arg Gln Ile Leu Thr Lys Thr Ala Asp Leu Lys Asp Ala Leu Asp Asn
 465 470 475 480

Leu Pro Tyr Lys Asn Tyr Asp Tyr Leu Lys Val Met Gly Ala Cys Cys
 485 490 495

Glu Asn Val Ile Gly Tyr Met Pro Val Pro Val Gly Val Ala Gly Pro
 500 505 510

Leu Asn Leu Asp Gly Arg Leu Val His Val Pro Leu Ala Thr Thr Glu
 515 520 525

Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Met Arg Ala Leu Met Arg
 530 535 540

Cys Gly Val Thr Ser Arg Ile Val Ala Asp Gly Met Thr Arg Gly Pro
 545 550 555 560

Val Val Arg Phe Pro Asn Ile Asp Arg Ala Ser Glu Ala Met Leu Trp
 565 570 575

Met Gln Val Pro Tyr Asn Phe Glu Gln Ile Lys Lys Asn Phe Asp Ser
 580 585 590

Thr Ser Arg Phe Ala Arg Leu Ser Lys Ile His Ile Arg Val Ala Gly
 595 600 605

Arg His Leu Phe Ile Arg Phe Ile Ala Thr Thr Gly Asp Ala Met Gly
 610 615 620

Met Asn Met Leu Ser Lys Gly Thr Glu Val Ala Leu Ala Tyr Val Gln
 625 630 635 640

Gln Val Tyr Pro Asp Met Glu Ile Leu Ser Leu Ser Gly Asn Phe Cys
 645 650 655

Thr Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys
 660 665 670

Ser Val Val Cys Glu Ala Ile Val Pro Ala Asp Ile Ile Lys Ser Val
 675 680 685

Leu Lys Thr Ser Val Gln Ala Leu Met Asp Val Asn Ile Thr Lys Asn
 690 695 700

Leu Ile Gly Ser Ala Val Ala Gly Ser Ile Gly Gly Phe Asn Ala His
 705 710 715 720

Ala Ala Asn Ile Val Thr Ala Ile Phe Ile Ala Thr Gly Gln Asp Pro
 725 730 735

Ala Gln Asn Val Gly Ser Ser Asn Cys Met Thr Leu Met Glu Pro Trp
 740 745 750

Gly Glu Asp Gly Lys Asp Leu Tyr Val Ser Cys Thr Met Pro Ser Ile

Glu Ser Arg Leu Gly Asp Cys Arg Arg Ala Ala Arg Leu Arg Arg Glu
115 120 125

Ala Leu Arg Arg Val Thr Gly Arg Gly Val Glu Gly Leu Pro Phe Asp
130 135 140

Gly Met Asp Tyr Gln Ala Ile Leu Gly Gln Cys Cys Glu Met Pro Val
145 150 155 160

Gly Tyr Val Gln Leu Pro Val Gly Val Ala Gly Pro Leu Leu Leu Asp
165 170 175

Gly Arg Glu Tyr His Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val
180 185 190

Ala Ser Val Asn Arg Arg Val Gln Gly His Leu Val Ser Gly Gly Ala
195 200 205

Phe Ser Val Leu Leu Arg Asp Ala Met Ser Arg Ala Pro Ala Val Lys
210 215 220

Leu Pro Cys Pro Met Arg Ala Ala Glu Leu Lys Ala Phe Ala Glu Ala
225 230 235 240

Pro Ala Asn Phe Glu Leu Leu Ala Ala Val Phe Asn Arg Ser Ser Arg
245 250 255

Phe Gly Arg Leu Gln Asp Ile Arg Cys Ala Leu Ala Gly Arg Asn Leu
260 265 270

Tyr Met Arg Phe Ser Cys Ile Thr Gly Asp Ala Met Gly Met Asn Met
275 280 285

Val Ser Lys Gly Val Glu Asn Val Leu Gly Tyr Leu Gln Asn Val Phe
290 295 300

Pro Asp Met Asp Val Ile Ser Val Ser Gly Asn Tyr Cys Ser Asp Lys
305 310 315 320

Lys Pro Thr Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val
325 330 335

Cys Glu Ala Ile Ile Lys Gly Asp Val Val Gln Lys Val Leu Lys Thr
340 345 350

Thr Val Glu Lys Leu Val Glu Leu Asn Ile Ile Lys Asn Leu Ala Gly
355 360 365

Ser Ala Val Ala Gly Ala Leu Gly Gly Phe Asn Ala His Ala Ser Asn
370 375 380

Ile Val Thr Ala Leu Phe Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn
385 390 395 400

Val Glu Ser Ser Gln Cys Ile Thr Met Leu Glu Glu Val Asn Asp Gly
405 410 415

Asp Asp Leu His Ile Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr
420 425 430

Ile Gly Gly Gly Thr Cys Leu Ala Ser Gln Ala Ala Cys Leu Asn Leu
435 440 445

Leu Gly Val Lys Gly Ser Asn His Gly Ser Pro Gly Ala Asn Ala Gly
450 455 460

Arg Leu Ala Thr Ile Val Ala Gly Ser Val Val Ala Gly Arg Ala Leu
465 470 475 480

Leu Leu Ala Ala Leu Ala Ser Gly His Leu Val Lys Ser His Met Met
485 490 495

Tyr Asn Arg Ser Ser Lys Asp Val Ala Lys Ala Ala Ser
500 505

<210> 242

<211> 596

<212> PRT

<213> Solanum tuberosum

<400> 242

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1 5 10 15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Gln Glu Val Ser Ser Pro Lys
20 25 30

Ala Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Gly Leu Phe
35 40 45

Phe Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg
50 55 60

Glu Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu
65 70 75 80

Leu Leu Ala Met Val Ser Leu Ile Ala Ser Val Ile Tyr Leu Leu Gly
85 90 95

Phe Phe Gly Ile Gly Phe Val Gln Ser Phe Val Ser Arg Ser Asn Ser
100 105 110

Asp Ser Trp Asp Ile Glu Asp Glu Asn Ala Glu Gln Leu Ile Ile Glu
115 120 125

Glu Asp Ser Arg Arg Gly Pro Cys Ala Ala Ala Thr Thr Leu Gly Cys
130 135 140

Val Val Pro Pro Pro Pro Val Arg Lys Ile Ala Pro Met Val Pro Gln
145 150 155 160

Gln Pro Ala Lys Val Ala Leu Ser Gln Thr Glu Lys Pro Ser Pro Ile
165 170 175

Ile Met Pro Ala Leu Ser Glu Asp Asp Glu Glu Ile Ile Gln Ser Val
180 185 190

Val Gln Gly Lys Thr Pro Ser Tyr Ser Leu Glu Ser Lys Leu Gly Asp
195 200 205

Cys Met Arg Ala Ala Ser Ile Arg Lys Glu Ala Leu Gln Arg Ile Thr
210 215 220

Gly Lys Ser Leu Glu Gly Leu Pro Leu Glu Gly Phe Asp Tyr Ser Ser
225 230 235 240

Ile Leu Gly Gln Cys Cys Glu Met Pro Val Gly Tyr Val Gln Ile Pro
245 250 255

Val Gly Ile Ala Gly Pro Leu Leu Leu Asp Gly Arg Glu Tyr Ser Val
260 265 270

Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly
275 280 285

Cys Lys Ala Ile Phe Val Ser Gly Gly Ala Asp Ser Val Leu Leu Arg
290 295 300

Asp Gly Met Thr Arg Ala Pro Val Val Arg Phe Thr Thr Ala Lys Arg
 305 310 315 320

Ala Ala Glu Leu Lys Phe Phe Val Glu Asp Pro Leu Asn Phe Glu Thr
 325 330 335

Leu Ser Leu Met Phe Asn Lys Ser Ser Arg Phe Ala Arg Leu Gln Gly
 340 345 350

Ile Gln Cys Ala Ile Ala Gly Lys Asn Leu Tyr Ile Thr Phe Ser Cys
 355 360 365

Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val Gln
 370 375 380

Asn Val Leu Asp Tyr Leu Gln Ser Glu Tyr Pro Asp Met Asp Val Ile
 385 390 395 400

Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala Val Asn
 405 410 415

Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Ile Lys
 420 425 430

Glu Glu Val Val Lys Lys Val Leu Lys Thr Glu Val Ala Ala Leu Val
 435 440 445

Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala Met Ala Gly Ala
 450 455 460

Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser Ala Val Tyr
 465 470 475 480

Leu Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser His Cys
 485 490 495

Ile Thr Met Met Glu Ala Val Asn Asp Gly Lys Asp Leu His Val Ser
 500 505 510

Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln
 515 520 525

Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala
 530 535 540

Asn Arg Asp Ala Pro Gly Ser Asn Ala Arg Leu Leu Ala Thr Ile Val
 545 550 555 560

Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Ile Ser
 565 570 575

Ala Gly Gln Leu Val Lys Ser His Met Lys Tyr Asn Arg Ser Ile Lys
 580 585 590

Asp Ile Ser Lys
 595

<210> 243
 <211> 604
 <212> PRT
 <213> *Nicotiana sylvestris*

<400> 243

Met Asp Val Arg Arg Arg Ser Glu Lys Pro Ala Tyr Pro Thr Lys Glu
 1 5 10 15

Phe Ala Ala Gly Glu Lys Pro Leu Lys Pro His Lys Gln Gln Gln Glu
 20 25 30

Gln Asp Asn Ser Leu Leu Ile Ala Ser Asp Ala Leu Pro Leu Pro Leu
 35 40 45

Tyr Leu Thr Asn Gly Leu Phe Phe Thr Met Phe Phe Ser Val Met Tyr
 50 55 60

Tyr Leu Leu Ser Arg Trp Arg Glu Lys Ile Arg Asn Ser Thr Pro Leu
 65 70 75 80

His Val Val Thr Phe Ser Glu Leu Val Ala Ile Ala Ser Leu Ile Ala
 85 90 95

Ser Val Ile Tyr Leu Leu Gly Phe Phe Gly Ile Gly Phe Val Gln Ser
 100 105 110

Phe Val Ser Arg Asp Asn Asn Asp Glu Cys Trp Asp Glu Glu Asp Glu
 115 120 125

Asn Asp Glu Gln Phe Leu Leu Glu Glu Asp Ser Arg Arg Gly Pro Ala
 130 135 140

Thr Thr Leu Gly Cys Thr Ala Val Pro Pro Pro Pro Ala Leu Gln Ile
 145 150 155 160

Val Pro Met Val Pro Pro Gln Pro Ser Lys Val Ala Ala Met Ser Glu
165 170 175

Lys Pro Ala Pro Leu Val Thr Pro Ala Ala Ser Glu Glu Asp Glu Glu
180 185 190

Ile Ile Lys Ser Val Val Gln Gly Lys Met Pro Ser Tyr Ser Leu Glu
195 200 205

Ser Lys Leu Gly Asp Cys Lys Arg Ala Ala Ser Ile Arg Lys Glu Ala
210 215 220

Leu Gln Arg Ile Thr Gly Lys Ser Leu Glu Gly Leu Pro Leu Glu Gly
225 230 235 240

Phe Asp Tyr Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Pro Ile Gly
245 250 255

Tyr Val Gln Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asp Gly
260 265 270

Arg Glu Tyr Ser Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala
275 280 285

Ser Thr Asn Arg Gly Cys Lys Ala Ile Tyr Ala Ser Gly Gly Ala Thr
290 295 300

Ser Val Leu Leu Arg Asp Gly Met Thr Arg Ala Pro Cys Val Arg Phe
305 310 315 320

Gly Thr Ala Lys Arg Ala Ala Glu Leu Lys Phe Phe Val Glu Asp Pro
325 330 335

Val Lys Phe Glu Thr Leu Ala Ala Val Phe Asn Gln Ser Ser Arg Phe
340 345 350

Ala Arg Leu Gln Arg Ile Gln Cys Ala Ile Ala Gly Lys Asn Leu Tyr
355 360 365

Met Arg Phe Val Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val
370 375 380

Ser Lys Gly Val Gln Asn Val Leu Asp Tyr Leu Gln Asn Glu Tyr Pro
385 390 395 400

Asp Met Asp Val Ile Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys
 405 410 415

Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys
 420 425 430

Glu Ala Ile Ile Thr Glu Glu Val Val Lys Lys Val Leu Lys Thr Glu
 435 440 445

Val Ala Ala Leu Val Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser
 450 455 460

Ala Met Ala Gly Ala Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile
 465 470 475 480

Val Ser Ala Val Tyr Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Ile
 485 490 495

Glu Ser Ser His Cys Ile Thr Met Met Glu Ala Val Asn Asp Gly Lys
 500 505 510

Asp Leu His Val Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val
 515 520 525

Gly Gly Gly Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu
 530 535 540

Gly Val Lys Gly Ala Asn Arg Glu Val Pro Gly Ser Asn Ala Arg Leu
 545 550 555 560

Leu Ala Thr Ile Val Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu
 565 570 575

Met Ser Ala Ile Ser Ala Gly Gln Leu Val Lys Ser His Met Lys Tyr
 580 585 590

Asn Arg Ser Thr Lys Asp Val Thr Lys Ala Ser Ser
 595 600

<210> 244
 <211> 601
 <212> PRT
 <213> Catharanthus roseus

<400> 244

Met Asp Ser Arg Arg Arg Ser Pro Thr Val Thr Ala Lys Ala Ala Ala

1	5	10	15												
Gly	Glu	Leu	Pro	Leu	Ala	Pro	His	Glu	Gly	Gln	Asn	Gln	Gln	Pro	Ser
			20					25					30		
Ile	Pro	Arg	Ser	Ser	Asp	Val	Leu	Pro	Leu	Pro	Leu	Tyr	Leu	Ala	Asn
		35					40					45			
Gly	Val	Phe	Phe	Thr	Leu	Phe	Phe	Ser	Val	Met	Tyr	Phe	Leu	Leu	Thr
	50					55					60				
Arg	Trp	Arg	Glu	Lys	Ile	Arg	Asn	Ala	Thr	Pro	Leu	His	Val	Val	Thr
65					70					75					80
Leu	Ser	Glu	Leu	Ala	Ala	Leu	Ala	Ser	Leu	Ile	Ala	Ser	Val	Ile	Tyr
				85					90					95	
Leu	Val	Ser	Phe	Phe	Gly	Leu	Asp	Phe	Val	Gln	Ser	Leu	Ile	Tyr	Lys
			100					105					110		
Pro	Asn	Asn	Glu	Gly	Trp	Glu	Ile	Glu	Glu	Glu	Ile	Leu	Met	Val	Glu
		115					120					125			
Asp	Ser	Arg	Asn	Gly	Thr	Asn	Cys	Thr	Thr	Leu	Gly	Cys	Ala	Val	Pro
	130					135					140				
Pro	Pro	Ser	Val	Pro	Lys	Ile	Ala	Pro	Val	Val	Pro	Gln	Gln	Pro	Ser
145					150					155					160
Lys	Met	Val	Ile	Ile	Glu	Lys	Pro	Ala	Pro	Leu	Ile	Thr	Pro	Gln	Asn
				165					170					175	
Ser	Glu	Glu	Asp	Glu	Asp	Ile	Ile	Lys	Ala	Val	Val	Ala	Gly	Lys	Ile
			180					185					190		
Pro	Ser	Tyr	Ser	Leu	Glu	Ser	Lys	Leu	Gly	Asp	Cys	Lys	Arg	Ala	Ala
		195					200					205			
Gly	Ile	Arg	Arg	Glu	Ala	Leu	Gln	Arg	Ile	Thr	Gly	Lys	Ser	Leu	Glu
	210					215					220				
Gly	Leu	Pro	Leu	Glu	Gly	Phe	Asp	Tyr	Ala	Ser	Ile	Leu	Gly	Gln	Cys
225					230					235					240
Cys	Glu	Met	Pro	Val	Gly	Tyr	Val	Gln	Leu	Pro	Val	Gly	Ile	Ala	Gly
				245					250					255	

Pro Leu Leu Leu Asp Gly Arg Glu Tyr Met Leu Pro Met Ala Thr Thr
260 265 270

Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala Ile Leu
275 280 285

Ala Ser Gly Gly Ala Asn Ser Val Leu Leu Arg Asp Gly Met Thr Arg
290 295 300

Ala Pro Val Val Arg Phe Gly Thr Ala Lys Arg Ala Ala Glu Leu Lys
305 310 315 320

Phe Tyr Met Glu Asp Thr Gln Asn Phe Glu Thr Ile Ser Val Val Phe
325 330 335

Asn Lys Ser Ser Arg Phe Ala Lys Leu Gln Ser Val Gln Cys Ala Ile
340 345 350

Ala Gly Lys Asn Leu Tyr Ile Arg Phe Ser Cys Ser Thr Gly Asp Ala
355 360 365

Met Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val Leu Glu Phe
370 375 380

Leu Gln Thr Asp Tyr Pro Asp Met Asp Val Leu Gly Ile Ser Gly Asn
385 390 395 400

Phe Cys Ala Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg
405 410 415

Gly Lys Ser Val Val Cys Glu Ala Ile Ile Lys Glu Glu Ile Val Lys
420 425 430

Thr Val Leu Lys Thr Glu Val Ala Ala Leu Ile Glu Leu Asn Met Val
435 440 445

Lys Asn Leu Ala Gly Ser Ala Ile Ala Gly Ala Leu Gly Gly Phe Asn
450 455 460

Ala His Ala Ser Asn Ile Val Ser Ala Ile Phe Ile Ala Thr Gly Gln
465 470 475 480

Asp Pro Ala Gln Asn Val Glu Ser Ser Gln Cys Ile Thr Met Met Glu
485 490 495

Ala Val Asn Asp Gly Lys Asp Leu His Ile Ser Val Thr Met Pro Ser
500 505 510

Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ser
515 520 525

Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Ser Lys Asp Ser Pro
530 535 540

Gly Ala Asn Ser Arg Leu Leu Ala Thr Ile Val Ala Gly Ser Val Leu
545 550 555 560

Ala Gly Glu Leu Ser Leu Met Ser Ala Ile Ser Ala Gly Gln Leu Val
565 570 575

Arg Ser His Met Lys Tyr Asn Arg Ser Ser Lys Asp Ile Thr Asn Ile
580 585 590

Ala Ser Ser Gln Leu Glu Ser Asp Ser
595 600

<210> 245
<211> 586
<212> PRT
<213> Hevea brasiliensis

<400> 245

Met Asp Glu Val Arg Arg Arg Pro Pro Lys His Ile Val Arg Lys Asp
1 5 10 15

His Asp Gly Glu Val Leu Asn Ser Phe Ser His Gly His His Leu Pro
20 25 30

Pro Leu Lys Pro Ser Asp Tyr Ser Leu Pro Leu Ser Leu Tyr Leu Ala
35 40 45

Asn Ala Leu Val Phe Ser Leu Phe Phe Ser Val Ala Tyr Phe Leu Leu
50 55 60

His Arg Trp Arg Glu Lys Ile Arg Lys Ser Thr Pro Leu His Ile Val
65 70 75 80

Thr Phe Pro Glu Ile Ala Ala Leu Ile Cys Leu Val Ala Ser Val Ile
85 90 95

Tyr Leu Leu Gly Phe Phe Gly Ile Gly Phe Val His Ser Phe Ser Arg

100					105					110					
Ala	Ser	Thr	Asp	Ser	Trp	Asp	Val	Glu	Glu	Tyr	Asp	Asp	Asp	Asn	Ile
		115					120					125			
Ile	Ile	Lys	Glu	Asp	Thr	Arg	Pro	Thr	Gly	Ala	Cys	Ala	Ala	Pro	Ser
	130					135					140				
Leu	Asp	Cys	Ser	Leu	Ser	Leu	Pro	Thr	Lys	Ile	His	Ala	Pro	Ile	Val
145					150					155					160
Ser	Thr	Thr	Thr	Thr	Ser	Thr	Leu	Ser	Asp	Asp	Asp	Glu	Gln	Ile	Ile
				165					170					175	
Lys	Ser	Val	Val	Ser	Gly	Ser	Ile	Pro	Ser	Tyr	Ser	Leu	Glu	Ser	Lys
		180						185					190		
Leu	Gly	Asn	Cys	Lys	Arg	Ala	Ala	Leu	Ile	Arg	Arg	Glu	Thr	Leu	Gln
	195						200					205			
Arg	Met	Ser	Gly	Arg	Ser	Leu	Glu	Gly	Leu	Pro	Leu	Asp	Gly	Phe	Asp
	210					215					220				
Tyr	Glu	Ser	Ile	Leu	Gly	Gln	Cys	Cys	Glu	Met	Ala	Ile	Gly	Tyr	Val
225					230					235					240
Gln	Ile	Pro	Val	Gly	Ile	Ala	Gly	Pro	Leu	Leu	Leu	Asp	Gly	Lys	Glu
				245					250					255	
Tyr	Thr	Val	Pro	Met	Ala	Thr	Thr	Glu	Gly	Cys	Leu	Val	Ala	Ser	Ala
			260					265					270		
Asn	Arg	Gly	Cys	Lys	Ala	Ile	Tyr	Ala	Ser	Gly	Gly	Ala	Thr	Ser	Val
		275					280					285			
Leu	Leu	Arg	Asp	Gly	Met	Thr	Arg	Ala	Pro	Val	Val	Arg	Phe	Pro	Thr
	290					295					300				
Ala	Lys	Arg	Ala	Ala	Asp	Leu	Lys	Phe	Phe	Met	Glu	Asp	Pro	Asp	Asn
305					310					315					320
Phe	Asp	Thr	Ile	Ala	Val	Val	Phe	Asn	Lys	Ser	Ser	Arg	Phe	Ala	Arg
				325					330					335	
Leu	Gln	Ser	Val	Gln	Cys	Ala	Ile	Ala	Gly	Lys	Asn	Leu	Tyr	Met	Arg
			340					345					350		

Phe Ser Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys
 355 360 365

Ala Val Gln Asn Val Ile Asp Tyr Leu Gln Asn Asp Phe Pro Asp Met
 370 375 380

Asp Val Ile Gly Leu Thr Gly Asn Phe Cys Ala Asp Lys Lys Ala Ala
 385 390 395 400

Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala
 405 410 415

Ile Ile Lys Glu Glu Val Val Lys Lys Val Leu Lys Thr Asn Val Ala
 420 425 430

Ala Leu Val Glu Leu Asn Met Ile Lys Asn Leu Thr Gly Ser Ala Val
 435 440 445

Ala Gly Ser Leu Gly Gly Phe Asn Ala His Ala Ser Asn Met Val Thr
 450 455 460

Ala Val Tyr Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser
 465 470 475 480

Ser His Cys Ile Thr Met Met Glu Ala Val Asn Asp Gly Lys Asp Leu
 485 490 495

His Ile Ser Val Ser Met Pro Ser Ile Glu Leu Gly Thr Val Gly Gly
 500 505 510

Gly Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val
 515 520 525

Lys Gly Ala Ser Lys Asp Ser Pro Gly Ser Asn Ser Arg Leu Leu Ala
 530 535 540

Thr Ile Val Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu Met Ser
 545 550 555 560

Ala Ile Ala Ala Gly Gln Leu Val Asn Ser His Met Lys Tyr Asn Arg
 565 570 575

Ser Ala Lys Asp Val Ser Lys Ile Thr Phe
 580 585

<210> 246
 <211> 428
 <212> PRT
 <213> Pseudomonas mevalonii

<400> 246

Met Ser Leu Asp Ser Arg Leu Pro Ala Phe Arg Asn Leu Ser Pro Ala
 1 5 10 15

Ala Arg Leu Asp His Ile Gly Gln Leu Leu Gly Leu Ser His Asp Asp
 20 25 30

Val Ser Leu Leu Ala Asn Ala Gly Ala Leu Pro Met Asp Ile Ala Asn
 35 40 45

Gly Met Ile Glu Asn Val Ile Gly Thr Phe Glu Leu Pro Tyr Ala Val
 50 55 60

Ala Ser Asn Phe Gln Ile Asn Gly Arg Asp Val Leu Val Pro Leu Val
 65 70 75 80

Val Glu Glu Pro Ser Ile Val Ala Ala Ala Ser Tyr Met Ala Lys Leu
 85 90 95

Ala Arg Ala Asn Gly Gly Phe Thr Thr Ser Ser Ser Ala Pro Leu Met
 100 105 110

His Ala Gln Val Gln Ile Val Gly Ile Gln Asp Pro Leu Asn Ala Arg
 115 120 125

Leu Ser Leu Leu Arg Arg Lys Asp Glu Ile Ile Glu Leu Ala Asn Arg
 130 135 140

Lys Asp Gln Leu Leu Asn Ser Leu Gly Gly Gly Cys Arg Asp Ile Glu
 145 150 155 160

Val His Thr Phe Ala Asp Thr Pro Arg Gly Pro Met Leu Val Ala His
 165 170 175

Leu Ile Val Asp Val Arg Asp Ala Met Gly Ala Asn Thr Val Asn Thr
 180 185 190

Met Ala Glu Ala Val Ala Pro Leu Met Glu Ala Ile Thr Gly Gly Gln
 195 200 205

Val Arg Leu Arg Ile Leu Ser Asn Leu Ala Asp Leu Arg Leu Ala Arg

210	215	220
Ala Gln Val Arg Ile Thr Pro Gln Gln Leu Glu Thr Ala Glu Phe Ser		
225	230	235 240
Gly Glu Ala Val Ile Glu Gly Ile Leu Asp Ala Tyr Ala Phe Ala Ala		
	245	250 255
Val Asp Pro Tyr Arg Ala Ala Thr His Asn Lys Gly Ile Met Asn Gly		
	260	265 270
Ile Asp Pro Leu Ile Val Ala Thr Gly Asn Asp Trp Arg Ala Val Glu		
	275	280 285
Ala Gly Ala His Ala Tyr Ala Cys Arg Ser Gly His Tyr Gly Ser Leu		
	290	295 300
Thr Thr Trp Glu Lys Asp Asn Asn Gly His Leu Val Gly Thr Leu Glu		
	305	310 315 320
Met Pro Met Pro Val Gly Leu Val Gly Gly Ala Thr Lys Thr His Pro		
	325	330 335
Leu Ala Gln Leu Ser Leu Arg Ile Leu Gly Val Lys Thr Ala Gln Ala		
	340	345 350
Leu Ala Glu Ile Ala Val Ala Val Gly Leu Ala Gln Asn Leu Gly Ala		
	355	360 365
Met Arg Ala Leu Ala Thr Glu Gly Ile Gln Arg Gly His Met Ala Leu		
	370	375 380
His Ala Arg Asn Ile Ala Val Val Ala Gly Ala Arg Gly Asp Glu Val		
	385	390 395 400
Asp Trp Val Ala Arg Gln Leu Val Glu Tyr His Asp Val Arg Ala Asp		
	405	410 415
Arg Ala Val Ala Leu Leu Lys Gln Lys Arg Gly Gln		
	420	425

<210> 247
 <211> 592
 <212> PRT
 <213> Arabidopsis thaliana

<400> 247

Met Asp Leu Arg Arg Arg Pro Pro Lys Pro Pro Val Thr Asn Asn Asn
 1 5 10 15
 Asn Ser Asn Gly Ser Phe Arg Ser Tyr Gln Pro Arg Thr Ser Asp Asp
 20 25 30
 Asp His Arg Arg Arg Ala Thr Thr Ile Ala Pro Pro Pro Lys Ala Ser
 35 40 45
 Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr
 50 55 60
 Leu Phe Phe Ser Val Ala Tyr Tyr Leu Leu His Arg Trp Arg Asp Lys
 65 70 75 80
 Ile Arg Tyr Asn Thr Pro Leu His Val Val Thr Ile Thr Glu Leu Gly
 85 90 95
 Ala Ile Ile Ala Leu Ile Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe
 100 105 110
 Gly Ile Asp Phe Val Gln Ser Phe Ile Ser Arg Ala Ser Gly Asp Ala
 115 120 125
 Trp Asp Leu Ala Asp Thr Ile Asp Asp Asp Asp His Arg Leu Val Thr
 130 135 140
 Cys Ser Pro Pro Thr Pro Ile Val Ser Val Ala Lys Leu Pro Asn Pro
 145 150 155 160
 Glu Pro Ile Val Thr Glu Ser Leu Pro Glu Glu Asp Glu Glu Ile Val
 165 170 175
 Lys Ser Val Ile Asp Gly Val Ile Pro Ser Tyr Ser Leu Glu Ser Arg
 180 185 190
 Leu Gly Asp Cys Lys Arg Ala Ala Ser Ile Arg Arg Glu Ala Leu Gln
 195 200 205
 Arg Val Thr Gly Arg Ser Ile Glu Gly Leu Pro Leu Asp Gly Phe Asp
 210 215 220
 Tyr Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Pro Val Gly Tyr Ile
 225 230 235 240

Gln Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asp Gly Tyr Glu
 245 250 255
 Tyr Ser Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr
 260 265 270
 Asn Arg Gly Cys Lys Ala Met Phe Ile Ser Gly Gly Ala Thr Ser Thr
 275 280 285
 Val Leu Lys Asp Gly Met Thr Arg Ala Pro Val Val Arg Phe Ala Ser
 290 295 300
 Ala Arg Arg Ala Ser Glu Leu Lys Phe Phe Leu Glu Asn Pro Glu Asn
 305 310 315 320
 Phe Asp Thr Leu Ala Val Val Phe Asn Arg Ser Ser Arg Phe Ala Arg
 325 330 335
 Leu Gln Ser Val Lys Cys Thr Ile Ala Gly Lys Asn Ala Tyr Val Arg
 340 345 350
 Phe Cys Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys
 355 360 365
 Gly Val Gln Asn Val Leu Glu Tyr Leu Thr Asp Asp Phe Pro Asp Met
 370 375 380
 Asp Val Ile Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala
 385 390 395 400
 Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala
 405 410 415
 Val Ile Arg Gly Glu Ile Val Asn Lys Val Leu Lys Thr Ser Val Ala
 420 425 430
 Ala Leu Val Glu Leu Asn Met Leu Lys Asn Leu Ala Gly Ser Ala Val
 435 440 445
 Ala Gly Ser Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser
 450 455 460
 Ala Val Phe Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser
 465 470 475 480
 Ser Gln Cys Ile Thr Met Met Glu Ala Ile Asn Asp Gly Lys Asp Ile

485										490					495				
His	Ile	Ser	Val	Thr	Met	Pro	Ser	Ile	Glu	Val	Gly	Thr	Val	Gly	Gly				
			500					505					510						
Gly	Thr	Gln	Leu	Ala	Ser	Gln	Ser	Ala	Cys	Leu	Asn	Leu	Leu	Gly	Val				
		515					520				525								
Lys	Gly	Ala	Ser	Thr	Glu	Ser	Pro	Gly	Met	Asn	Ala	Arg	Arg	Leu	Ala				
	530					535					540								
Thr	Ile	Val	Ala	Gly	Ala	Val	Leu	Ala	Gly	Glu	Leu	Ser	Leu	Met	Ser				
545					550					555					560				
Ala	Ile	Ala	Ala	Gly	Gln	Leu	Val	Arg	Ser	His	Met	Lys	Tyr	Asn	Arg				
			565						570					575					
Ser	Ser	Arg	Asp	Ile	Ser	Gly	Ala	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr		
			580					585						590					
<210> 248																			
<211> 421																			
<212> PRT																			
<213> Aeropyrum pernix																			
<400> 248																			
Met	Gly	Ser	Ser	Ser	Gly	Gln	Lys	Pro	Arg	Arg	Leu	Glu	Asp	Leu	Val				
1				5					10					15					
Asp	Lys	Leu	Ala	Ser	Gly	Ser	Leu	Ser	His	Ser	Arg	Leu	Glu	Lys	Glu				
			20					25					30						
Leu	Gly	Asn	Ala	Asn	Glu	Ala	Ala	Leu	Val	Arg	Arg	Leu	Tyr	Leu	Glu				
		35					40					45							
Arg	Leu	Thr	Gly	Ala	Ser	Leu	Ser	Ser	Val	Ala	Ser	Thr	Ile	Leu	Asp				
		50				55					60								
Phe	Gln	Glu	Leu	Tyr	Gly	Arg	Asn	Ile	Glu	Asn	Pro	Ile	Gly	Ala	Val				
65					70					75					80				
Gln	Val	Pro	Val	Gly	Val	Ala	Gly	Pro	Leu	Arg	Ile	Asn	Gly	Asp	Tyr				
				85				90						95					
Ala	Arg	Gly	Asp	Phe	Tyr	Ile	Pro	Leu	Ala	Thr	Thr	Glu	Gly	Ala	Leu				
			100					105						110					

Val Ala Ser Val Asn Arg Gly Ala Lys Ala Ile Thr Leu Ser Gly Gly
115 120 125

Ala Arg Ala Lys Val Ile Lys Asp Gly Met Thr Arg Ala Pro Leu Leu
130 135 140

Trp Thr Pro Ser Val Tyr Glu Ala His Arg Leu Ala Met Trp Val Glu
145 150 155 160

Asp Arg Ile Glu Asp Leu Arg Ser Val Val Ala Gly Val Thr Arg His
165 170 175

Gly Arg Leu Gln His Ile Tyr Pro Tyr Ile Ile Gly Asn Leu Val Trp
180 185 190

Leu Arg Leu Ser Phe Ser Thr Gly Asp Ala Met Gly Met Asn Met Val
195 200 205

Thr Ile Ser Ser Asp Arg Ile Cys Arg Tyr Ile Glu Glu Asn Tyr Asp
210 215 220

Gly Asp Ala Lys Cys Ile Ala Leu Ser Gly Asn Met Cys Thr Asp Lys
225 230 235 240

Lys Pro Ala Ala Ile Asn Lys Ile Leu Gly Arg Gly Lys Tyr Val Val
245 250 255

Ala Glu Ala Val Ile Lys Gly Glu Val Val Lys Asn Val Leu Lys Thr
260 265 270

Thr Pro Gln Asn Ile Asn Leu Val Asn Val Thr Lys Asn Leu Leu Gly
275 280 285

Ser Ala Ala Ala Gly Ser His Ser Phe Asn Ala His Phe Ala Asn Ile
290 295 300

Ile Ala Ala Ile Phe Ile Ala Thr Gly Gln Asp Ala Ala Gln Val Val
305 310 315 320

Glu Ser Ser Met Gly Tyr Thr Trp Thr Glu Val Arg Gly Glu Asp Leu
325 330 335

Tyr Ile Ser Val Thr Leu Pro Ser Leu Glu Val Gly Thr Val Gly Gly
340 345 350

Gly Thr Arg Leu Pro Thr Gln Arg Glu Leu Leu Ala Leu Leu Gly Val
 355 360 365

Ala Gly Gly Gly Asn Pro Pro Gly Ser Asn Ala Leu Lys Leu Ala Glu
 370 375 380

Ile Ile Ala Ser Ala Val Leu Ala Gly Glu Leu Asn Leu Leu Ser Ala
 385 390 395 400

Ile Ala Ala Gly Gln Leu Ala Arg Ala His Glu Leu Leu Gly Arg Gly
 405 410 415

Gly Leu Lys Ile Ser
 420

<210> 249
 <211> 1068
 <212> PRT
 <213> Aspergillus terreus

<400> 249

Met Asp Pro Val Val Arg Lys Pro Asp Pro Gly Gly Val Gln His Arg
 1 5 10 15

Val Thr Lys Ala Leu Arg Ala Ile Val Gly His Ala Cys Arg His Pro
 20 25 30

Ile His Thr Leu Leu Val Thr Ala Leu Thr Ala Ala Thr Thr His Leu
 35 40 45

His Val Leu Glu Gly Thr Tyr Gln Ala Thr His Arg Glu Ala Ser Ala
 50 55 60

Trp Lys Trp Gln Ile Asp Asp Arg Pro Lys Val Pro Glu Asp Gly Gln
 65 70 75 80

Ser Asp Phe His Trp Ala Leu Val Thr Leu Asp Leu Pro Gly Ala Ser
 85 90 95

Val Asp Ala Ser Ile Pro Phe Leu Ser Asn Thr Leu Ser Gly Phe Leu
 100 105 110

Gly Ala Glu Gln Thr Thr Pro Thr Pro Asp Ser Ser Pro Ser Pro Asp
 115 120 125

His Ser Ala Leu Thr Phe Arg Val Pro Tyr Ser Gln Leu Asp Gly Phe
 130 135 140

Leu Gln Ala Val Glu Ile Ile Pro Ser Glu Lys Glu Asp Asp Ser Trp
 145 150 155 160

Arg Leu Arg Ser Pro Arg Glu Glu Gly Ser Pro Arg Ser Leu Gly His
 165 170 175

Trp Leu Gly Ser Ser Trp Leu Ser Phe Leu His Arg Val His His Ala
 180 185 190

Glu Thr Val Asp Leu Val Ile Ile Gly Leu Ser Tyr Leu Ala Met Asn
 195 200 205

Met Thr Val Val Ser Leu Phe Arg Val Met Arg His Leu Gly Ser Arg
 210 215 220

Phe Trp Leu Ala Ala Ser Val Leu Leu Ser Gly Ala Phe Ala Phe Val
 225 230 235 240

Leu Gly Leu Gly Ile Thr Thr Thr Cys Asp Val Pro Val Asp Met Leu
 245 250 255

Leu Leu Phe Glu Gly Ile Pro Tyr Leu Val Leu Thr Val Gly Phe Glu
 260 265 270

Lys Pro Ile Gln Leu Thr Arg Ala Val Leu Cys Val Ser Glu Glu Leu
 275 280 285

Trp Gly Gly Gly Gln Arg Gln Val Pro Asn Gly Ala Ser Ser Asp Asp
 290 295 300

Ser Arg Gln Asn Gln Leu Ile Pro Asn Ile Ile Gln Leu Ala Val Asp
 305 310 315 320

Arg Glu Gly Trp Tyr Ile Val Arg Ser Tyr Leu Leu Glu Ile Gly Ala
 325 330 335

Leu Ala Leu Gly Ala Val Leu Arg Pro Lys Asp Ser Leu Gly His Phe
 340 345 350

Cys Phe Leu Ala Ala Trp Thr Leu Leu Ile Asp Ala Val Leu Leu Phe
 355 360 365

Thr Phe Tyr Ala Thr Ile Leu Cys Val Lys Leu Glu Ile Thr Arg Ile
 370 375 380

Arg Ser Pro Gly Gly Leu Gly Gln Val Asn Ala Lys His Pro Ser Gly
385 390 395 400

Ile Phe Gly His Lys Val Lys Ser Thr Asn Ile Thr Trp Trp Lys Leu
405 410 415

Leu Thr Val Gly Gly Phe Val Leu Cys His Phe Leu Gln Leu Ser Pro
420 425 430

Phe Phe Tyr Arg Val Met Gly Glu Tyr Met Ala Asn Gly Thr Leu Pro
435 440 445

Pro Thr Ala Val Ser Pro Phe Lys Glu Ala Ala Asn Gly Leu Asn Glu
450 455 460

Ile Tyr Leu Thr Ala Arg Val Glu Gly Phe Glu Thr Arg Val Thr Val
465 470 475 480

Leu Pro Pro Leu Gln Tyr Val Leu Glu Ser Ala Gly Phe Asn Ile Ser
485 490 495

Ala Thr Lys Arg Ser Thr Phe Asp Gly Val Leu Asp Gly Leu Glu Ser
500 505 510

Pro Leu Gly Arg Leu Cys Leu Met Gly Ala Leu Val Val Ser Leu Val
515 520 525

Leu Asn Asn His Leu Ile His Ala Ala Arg Trp His Ala Trp Pro Gln
530 535 540

Ala Arg Glu Ser Ala Val Pro Asp Gly Ser Tyr Leu Ser Val Pro Cys
545 550 555 560

Ser Ala Thr Ala Pro Glu Val Cys Thr Arg Pro Pro Glu Glu Thr Glu
565 570 575

Ala Leu Leu Lys Ser Asn Gln Ala Glu Ser Leu Thr Asp Asp Glu Leu
580 585 590

Val Glu Leu Cys Leu Arg Gly Lys Ile Ala Gly Tyr Ser Leu Glu Lys
595 600 605

Thr Leu Glu Arg Ile Ala Ala Gly Ser Ser Arg Ser Val Thr Arg Leu
610 615 620

Glu Ala Phe Thr Arg Ala Val Arg Ile Arg Arg Ala Ala Val Ser Lys
 625 630 635 640
 Thr Pro Ser Thr Gln Asn Leu Cys Ser Gly Leu Ala Glu Ser Leu Leu
 645 650 655
 Pro Tyr Arg Asp Tyr Asn Tyr Glu Leu Val His Gly Ala Cys Cys Glu
 660 665 670
 Asn Val Val Gly Tyr Leu Pro Leu Pro Leu Gly Val Ala Gly Pro Met
 675 680 685
 Val Ile Asp Gly Gln Ala Leu Phe Ile Pro Met Ala Thr Thr Glu Gly
 690 695 700
 Val Leu Val Ala Ser Ala Ser Arg Gly Cys Lys Ala Ile Asn Ala Gly
 705 710 715 720
 Gly Gly Ala Thr Thr Met Leu Lys Gly Asp Gly Met Thr Arg Gly Pro
 725 730 735
 Cys Leu Arg Phe Pro Ser Ala Gln Arg Ala Ala Glu Ala Gln Arg Trp
 740 745 750
 Val Glu Ser Pro Leu Gly His Glu Val Leu Ala Ala Ala Phe Asn Ala
 755 760 765
 Thr Ser Arg Phe Ala Arg Leu Gln Thr Leu Thr Val Ala Gln Ala Gly
 770 775 780
 Ile Tyr Leu Tyr Ile Arg Phe Arg Thr Thr Thr Gly Asp Ala Met Gly
 785 790 795 800
 Met Asn Met Ile Ser Lys Gly Val Glu Lys Ala Leu Glu Ala Met Ala
 805 810 815
 Ala Glu Gly Gly Phe Pro Asp Met His Thr Val Thr Leu Ser Gly Asn
 820 825 830
 Phe Cys Ser Asp Lys Lys Ser Ala Ala Ile Asn Trp Ile Gly Gly Arg
 835 840 845
 Gly Lys Ser Val Ile Ala Glu Ala Thr Ile Pro Ala Glu Thr Val Arg
 850 855 860
 Gln Val Leu Lys Thr Asp Val Asp Ala Leu Val Glu Leu Asn Thr Ala

865	870	875	880
Lys Asn Leu Val Gly Ser Ala Met Ala Gly Ser Leu Gly Gly Phe Asn	885	890	895
Ala His Ala Ser Asn Leu Val Gln Ala Val Phe Leu Ala Thr Gly Gln	900	905	910
Asp Pro Ala Gln Asn Val Glu Ser Ser Ser Cys Ile Thr Thr Met Lys	915	920	925
Asn Ile Asp Gly Asn Leu His Ile Ala Val Ser Met Pro Ser Met Glu	930	935	940
Val Gly Thr Ile Gly Gly Gly Thr Ile Leu Glu Ala Gln Gly Ala Met	945	950	955
Leu Asp Leu Leu Gly Val Arg Gly Ala His Ser Thr Glu Pro Gly Ala	965	970	975
Asn Ala Arg Arg Leu Ala Arg Ile Val Ala Ala Ala Val Leu Ala Gly	980	985	990
Glu Leu Ser Thr Cys Ala Ala Leu Ala Ala Gly His Leu Val Asn Ala	995	1000	1005
His Met Gln His Asn Arg Thr Ser Lys Asp Ala Ile Ser Gly Thr	1010	1015	1020
Glu Tyr Gly Ala Ile Arg Thr Pro Val Tyr Val Val Ile Leu Glu	1025	1030	1035
His Ala Gly Asp Ile His Phe Val Gln Ile Glu Tyr Lys Asn Thr	1040	1045	1050
Tyr Leu Arg Arg Lys Val Pro Thr Leu Ser Cys Asn Leu Gly Arg	1055	1060	1065
<210> 250			
<211> 560			
<212> PRT			
<213> Oryza sativa			
<400> 250			
Met Glu Val Arg Arg Arg Ala Pro Leu Pro Pro Pro Pro Gly Arg Val	1	5	10
			15

Gln Ala Gly Asp Ala Leu Pro Leu Pro Ile Arg His Thr Asn Leu Ile
 20 25 30

Phe Ser Ala Leu Phe Ala Ala Ser Leu Ala Tyr Leu Met Arg Arg Trp
 35 40 45

Arg Glu Lys Ile Arg Ser Ser Thr Pro Leu His Val Val Gly Leu Ala
 50 55 60

Glu Met Leu Ala Ile Phe Gly Leu Val Ala Ser Leu Ile Tyr Leu Leu
 65 70 75 80

Ser Phe Phe Gly Ile Ala Phe Val Gln Ser Ile Val Ser Ser Ser Asp
 85 90 95

Asp Glu Glu Glu Asp Phe Leu Val Gly Pro Ala Arg Gly Ser Ser Ala
 100 105 110

Ala Ala Ala Val Ala Pro Arg Ala Pro Ser Ser Pro Ala Gln Cys Ser
 115 120 125

Leu Leu Gly Ser Pro His Asp Asp Ala Ala Arg Glu Arg Met Pro Glu
 130 135 140

Glu Asp Glu Glu Ile Val Ser Ser Val Val Ala Gly Lys Val Pro Ser
 145 150 155 160

Tyr Val Leu Glu Thr Lys Leu Gly Asp Cys Arg Arg Ala Ala Gly Ile
 165 170 175

Arg Arg Glu Ala Val Arg Arg Ile Thr Gly Arg Gln Ile Glu Gly Leu
 180 185 190

Pro Leu Asp Gly Phe Asp Tyr Ala Ser Ile Leu Gly Gln Cys Cys Glu
 195 200 205

Leu Pro Val Gly Tyr Val Gln Leu Pro Val Gly Ile Ala Gly Pro Leu
 210 215 220

Leu Leu Asp Gly Gln Arg Phe Tyr Val Pro Met Ala Thr Thr Glu Gly
 225 230 235 240

Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala Ile Ala Glu Ser
 245 250 255

Gly Gly Ala Val Ser Val Val Leu Arg Asp Gly Met Thr Arg Ala Pro
 260 265 270

Val Ala Arg Leu Pro Thr Ala Arg Arg Ala Ala Glu Leu Lys Ala Phe
 275 280 285

Leu Glu Asp Ser Val Asn Phe Asn Thr Leu Ser Met Val Phe Asn Arg
 290 295 300

Ser Ser Arg Phe Ala Arg Leu Gln Gly Val Gln Cys Ala Met Ala Gly
 305 310 315 320

Arg Asn Leu Tyr Met Arg Phe Ser Cys Cys Thr Gly Asp Ala Met Gly
 325 330 335

Met Asn Met Val Ser Lys Gly Glu Gln Asn Val Leu Asp Tyr Leu Gln
 340 345 350

Asp Asp Phe Pro Asp Met Asp Val Ile Ser Ile Ser Gly Asn Phe Cys
 355 360 365

Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys
 370 375 380

Ser Val Val Cys Glu Ala Val Ile Lys Glu Asp Val Val Lys Lys Val
 385 390 395 400

Leu Lys Thr Asn Val Gln Ser Leu Val Glu Leu Asn Val Ile Lys Asn
 405 410 415 •

Leu Ala Gly Ser Ala Val Ala Gly Ala Leu Gly Gly Phe Asn Ala His
 420 425 430

Ala Ser Asn Ile Val Thr Ala Ile Phe Ile Ala Thr Gly Gln Asp Pro
 435 440 445

Ala Gln Asn Val Glu Ser Ser His Cys Ile Thr Met Leu Glu Ala Val
 450 455 460

Asn Asp Gly Arg Asp Leu His Ile Ser Val Thr Met Pro Ser Ile Glu
 465 470 475 480

Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ala Ala Cys
 485 490 495

Leu Asp Leu Leu Gly Val Lys Gly Ala Asn Arg Glu Ser Pro Gly Ser

	500		505		510										
Asn	Ala	Arg	Leu	Leu	Ala	Thr	Val	Val	Ala	Gly	Gly	Val	Leu	Ala	Gly
	515						520					525			
Glu	Leu	Ser	Leu	Leu	Ser	Ala	Leu	Arg	Ala	Gly	Gln	Leu	Val	Lys	Ser
	530					535					540				
His	Met	Lys	Tyr	Asn	Arg	Ser	Ser	Lys	Asp	Met	Ser	Lys	Val	Ile	Ser
545					550					555					560
<210> 251															
<211> 604															
<212> PRT															
<213> Capsicum annum															
<400> 251															
Met	Asp	Val	Arg	Arg	Arg	Ser	Glu	Glu	Ala	Val	Tyr	Ser	Ser	Lys	Val
1				5					10					15	
Phe	Ala	Ala	Asp	Glu	Lys	Pro	Leu	Lys	Pro	His	Lys	Gln	Gln	Gln	Glu
			20					25					30		
Glu	Asp	Asn	Thr	Leu	Leu	Ile	Asp	Ala	Ser	Asp	Ala	Leu	Pro	Leu	Pro
		35					40					45			
Leu	Tyr	Phe	Thr	Asn	Gly	Leu	Phe	Phe	Thr	Met	Phe	Phe	Ser	Val	Met
	50					55					60				
Tyr	Phe	Leu	Leu	Ser	Arg	Trp	Arg	Glu	Lys	Ile	Arg	Asn	Ser	Thr	Pro
65					70					75					80
Leu	His	Val	Val	Thr	Leu	Ser	Glu	Leu	Gly	Ala	Ile	Val	Ser	Leu	Ile
				85					90					95	
Ala	Ser	Val	Ile	Tyr	Leu	Leu	Gly	Phe	Phe	Gly	Ile	Gly	Phe	Val	Gln
			100					105					110		
Thr	Phe	Val	Ala	Arg	Gly	Asn	Asn	Asp	Ser	Trp	Asp	Glu	Glu	Asp	Glu
		115					120					125			
Asn	Asp	Glu	Gln	Phe	Ile	Leu	Glu	Glu	Asp	Ser	Arg	Arg	Gly	Pro	Cys
	130					135					140				
Ala	Ala	Ala	Thr	Thr	Leu	Gly	Cys	Ala	Val	Pro	Thr	Pro	Pro	Ala	Lys
145					150					155					160

His Ile Ala Pro Ile Val Pro Gln Gln Pro Ala Val Ser Ile Ala Glu
 165 170 175

Lys Pro Ala Pro Leu Val Thr Pro Ala Ala Ser Glu Glu Asp Glu Glu
 180 185 190

Ile Ile Lys Ser Val Val Gln Gly Lys Ile Pro Ser Tyr Ser Leu Glu
 195 200 205

Ser Lys Leu Gly Asp Cys Lys Arg Ala Ala Ser Ile Arg Lys Glu Val
 210 215 220

Leu Gln Arg Ile Thr Gly Lys Ser Leu Glu Gly Leu Pro Leu Asp Gly
 225 230 235 240

Phe Asn Tyr Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Thr Ile Gly
 245 250 255

Tyr Val Gln Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asn Gly
 260 265 270

Arg Glu Tyr Ser Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala
 275 280 285

Ser Thr Asn Arg Gly Cys Lys Ala Ile Tyr Ala Ser Gly Gly Ala Thr
 290 295 300

Ser Ile Leu Leu Arg Asp Gly Met Thr Arg Ala Pro Cys Val Arg Phe
 305 310 315 320

Gly Thr Ala Lys Arg Ala Ala Glu Leu Lys Phe Phe Val Glu Asp Pro
 325 330 335

Ile Asn Phe Glu Thr Leu Ala Asn Val Phe Asn Gln Ser Ser Arg Phe
 340 345 350

Ala Arg Leu Gln Arg Ile Gln Cys Ala Ile Ala Gly Lys Asn Leu His
 355 360 365

Met Arg Phe Val Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val
 370 375 380

Ser Lys Gly Val Gln Asn Val Leu Asp Tyr Leu Gln Asn Glu Tyr Ala
 385 390 395 400

Asp Met Asp Val Ile Gly Ile Ser Ala Asn Phe Cys Ser Asp Lys Lys
405 410 415

Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys
420 425 430

Glu Ala Ile Ile Thr Glu Glu Val Val Lys Lys Val Leu Lys Thr Glu
435 440 445

Val Ala Ala Leu Val Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser
450 455 460

Ala Leu Ala Gly Ala Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile
465 470 475 480

Val Ser Ala Val Tyr Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Ile
485 490 495

Glu Ser Ser His Cys Ile Thr Met Met Glu Ala Val Asn Asp Gly Lys
500 505 510

Asp Leu His Ile Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val
515 520 525

Gly Gly Gly Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu
530 535 540

Gly Val Lys Gly Ala Asn Arg Glu Ala Pro Gly Ser Asn Ala Arg Leu
545 550 555 560

Leu Ala Thr Ile Val Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu
565 570 575

Met Ser Ala Ile Ser Ala Gly Gln Leu Val Asn Ser His Met Lys Tyr
580 585 590

Asn Arg Ser Thr Lys Asp Val Thr Lys Ala Ser Ser
595 600

<210> 252
<211> 411
<212> PRT
<213> *Pyrococcus abyssi*

<400> 252

Met Lys Thr Leu Asn Val Glu Asp Ile Ile Glu Lys Val Ala Asn Gly
1 5 10 15

Glu Ile Lys Leu His Gln Val Glu Lys Tyr Val Asn Gly Asp Lys Arg
 20 25 30
 Leu Ala Thr Glu Ile Arg Arg Lys Ala Leu Glu Arg Lys Leu Gly Ile
 35 40 45
 Ser Leu Lys His Ile Gly His Tyr Ser Ile Asp Pro Asn Glu Leu Ile
 50 55 60
 Gly Arg Asn Ile Glu Asn Met Ile Gly Val Val Gln Ile Pro Met Gly
 65 70 75 80
 Val Ala Gly Pro Leu Lys Ile Asn Gly Glu Tyr Ala Lys Gly Glu Phe
 85 90 95
 Tyr Ile Pro Leu Ala Thr Thr Glu Gly Ala Leu Val Ala Ser Val Asn
 100 105 110
 Arg Gly Cys Ser Ala Leu Thr Glu Ala Gly Gly Val Val Thr Thr Ile
 115 120 125
 Leu Asp Asp Lys Met Thr Arg Ala Pro Leu Ile Arg Cys Pro Asn Ala
 130 135 140
 Arg Arg Ala Arg Glu Val Ala Glu Trp Val Lys Glu Asn Leu Asn Tyr
 145 150 155 160
 Leu Gln Glu Lys Ala Val Ala Lys Val Thr Arg His Gly Lys Leu Arg
 165 170 175
 Asp Val Lys Pro Phe Ile Val Gly Asn Asn Leu Tyr Leu Arg Phe Glu
 180 185 190
 Phe Glu Thr Gly Asp Ala Met Gly Met Asn Met Val Thr Ile Ala Ser
 195 200 205
 Glu Glu Ile Met Lys Val Ile Glu Glu Glu Phe Pro Asp Val Arg Tyr
 210 215 220
 Leu Ala Leu Ser Gly Asn Leu Cys Val Asp Lys Lys Pro Asn Ala Val
 225 230 235 240
 Asn Phe Ile Leu Gly Arg Gly Lys Thr Val Val Ala Glu Ala Ile Val
 245 250 255

Pro Arg Glu Ile Val Glu Lys Lys Leu Lys Thr Thr Pro Glu Leu Ile
260 265 270

Ala Glu Val Asn Tyr Phe Lys Asn Leu Val Gly Ser Ala Gln Ala Gly
275 280 285

Ser Tyr Gly Phe Asn Ala His Phe Gly Asn Ile Val Gly Ala Ile Phe
290 295 300

Leu Ala Thr Gly Gln Asp Glu Ala Gln Ile Thr Glu Gly Ser His Gly
305 310 315 320

Ile Thr Ile Ala Glu Val Thr Pro Glu Gly Asp Leu Tyr Ile Ser Ile
325 330 335

Thr Met Pro Ser Leu Glu Ile Gly Thr Val Gly Gly Gly Thr Arg Val
340 345 350

Pro Thr Gln Arg Glu Ala Leu Ser Ile Met Gly Val Ala Gly Gly Gly
355 360 365

Asp Pro Pro Gly Val Asn Ala Lys Lys Phe Ala Glu Ile Val Ala Gly
370 375 380

Ala Val Leu Ala Gly Glu Leu Ser Leu Leu Ala Ala Ile Ala Ala Lys
385 390 395 400

His Leu Ala Arg Ala His Lys Met Leu Gly Arg
405 410

<210> 253

<211> 411

<212> PRT

<213> Pyrococcus abyssi

<400> 253

Met Lys Thr Leu Asn Val Glu Asp Ile Ile Glu Lys Val Ala Asn Gly
1 5 10 15

Glu Ile Lys Leu His Gln Val Glu Lys Tyr Val Asn Gly Asp Lys Arg
20 25 30

Leu Ala Thr Glu Ile Arg Arg Lys Ala Leu Glu Arg Lys Leu Gly Ile
35 40 45

Ser Leu Lys His Ile Gly His Tyr Ser Ile Asp Pro Asn Glu Leu Ile

50	55	60
Gly Arg Asn Ile Glu Asn Met Ile Gly Val Val Gln Ile Pro Met Gly 65 70 75 80		
Val Ala Gly Pro Leu Lys Ile Asn Gly Glu Tyr Ala Lys Gly Glu Phe 85 90 95		
Tyr Ile Pro Leu Ala Thr Thr Glu Gly Ala Leu Val Ala Ser Val Asn 100 105 110		
Arg Gly Cys Ser Ala Leu Thr Glu Ala Gly Gly Val Val Thr Thr Ile 115 120 125		
Leu Asp Asp Lys Met Thr Arg Ala Pro Leu Ile Arg Cys Pro Asn Ala 130 135 140		
Arg Arg Ala Arg Glu Val Ala Glu Trp Val Lys Glu Asn Leu Asn Tyr 145 150 155 160		
Leu Gln Glu Lys Ala Val Ala Lys Val Thr Arg His Gly Lys Leu Arg 165 170 175		
Asp Val Lys Pro Phe Ile Val Gly Asn Asn Leu Tyr Leu Arg Phe Glu 180 185 190		
Phe Glu Thr Gly Asp Ala Met Gly Met Asn Met Val Thr Ile Ala Ser 195 200 205		
Glu Glu Ile Met Lys Val Ile Glu Glu Glu Phe Pro Asp Val Arg Tyr 210 215 220		
Leu Ala Leu Ser Gly Asn Leu Cys Val Asp Lys Lys Pro Asn Ala Val 225 230 235 240		
Asn Phe Ile Leu Gly Arg Gly Lys Thr Val Val Ala Glu Ala Ile Val 245 250 255		
Pro Arg Glu Ile Val Glu Lys Lys Leu Lys Thr Thr Pro Glu Leu Ile 260 265 270		
Ala Glu Val Asn Tyr Phe Lys Asn Leu Val Gly Ser Ala Gln Ala Gly 275 280 285		
Ser Tyr Gly Phe Asn Ala His Phe Gly Asn Ile Val Gly Ala Ile Phe 290 295 300		

Leu Ala Thr Gly Gln Asp Glu Ala Gln Ile Thr Glu Gly Ser His Gly
305 310 315 320

Ile Thr Ile Ala Glu Val Thr Pro Glu Gly Asp Leu Tyr Ile Ser Ile
325 330 335

Thr Met Pro Ser Leu Glu Ile Gly Thr Val Gly Gly Gly Thr Arg Val
340 345 350

Pro Thr Gln Arg Glu Ala Leu Ser Ile Met Gly Val Ala Gly Gly Gly
355 360 365

Asp Pro Pro Gly Val Asn Ala Lys Lys Phe Ala Glu Ile Val Ala Gly
370 375 380

Ala Val Leu Ala Gly Glu Leu Ser Leu Leu Ala Ala Ile Ala Ala Lys
385 390 395 400

His Leu Ala Arg Ala His Lys Met Leu Gly Arg
405 410

<210> 254

<211> 595

<212> PRT

<213> Solanum tuberosum

<400> 254

Met Asp Val Arg Arg Arg Ser Glu Lys Pro Val Tyr Pro Ser Lys Val
1 5 10 15

Phe Gly Ala Asp Glu Lys Pro Leu Lys Pro His Asn Asn Gln Gln Gln
20 25 30

Glu Asp Asn Asn Thr Leu Leu Ile Asp Ala Ser Asp Ala Leu Pro Leu
35 40 45

Pro Leu Tyr Leu Thr Asn Gly Leu Phe Phe Thr Met Phe Phe Ser Val
50 55 60

Met Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys Ile Arg Asn Ser Thr
65 70 75 80

Pro Leu His Val Val Thr Leu Ser Glu Leu Gly Ala Ile Val Ser Leu
85 90 95

Ile Ala Ser Val Ile Tyr Leu Leu Gly Phe Phe Gly Ile Gly Phe Val
 100 105 110
 Gln Thr Phe Val Ser Arg Gly Asn Asn Asp Ser Trp Asp Glu Asn Asp
 115 120 125
 Glu Glu Phe Leu Leu Lys Glu Asp Ser Arg Cys Gly Pro Ala Thr Thr
 130 135 140
 Leu Gly Cys Ala Ile Pro Ala Pro Pro Ala Arg Gln Ile Ser Pro Met
 145 150 155 160
 Ala Pro Pro Gln Pro Ala Met Ser Met Val Glu Lys Pro Ser Pro Leu
 165 170 175
 Ile Thr Pro Ala Ser Ser Glu Glu Asp Glu Glu Ile Ile Asn Ser Val
 180 185 190
 Val Gln Gly Lys Phe Pro Ser Tyr Ser Leu Val Ile Gln Leu Gly Asp
 195 200 205
 Val Ser Ala Ala Ala Ser Leu Arg Lys Glu Val Met Gln Arg Ile Thr
 210 215 220
 Gly Lys Ser Leu Glu Gly Leu Pro Leu Glu Gly Phe Thr Tyr Glu Ser
 225 230 235 240
 Ile Leu Gly Gln Cys Cys Glu Met Pro Ile Gly Tyr Val Gln Ile Pro
 245 250 255
 Val Gly Ile Ala Gly Pro Leu Leu Leu Asn Gly Lys Glu Phe Ser Val
 260 265 270
 Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly
 275 280 285
 Cys Lys Ala Ile Tyr Ala Ser Gly Gly Ala Thr Cys Ile Val Leu Arg
 290 295 300
 Asp Gly Met Thr Arg Ala Pro Cys Val Arg Phe Gly Thr Ala Lys Arg
 305 310 315 320
 Ala Ala Glu Leu Lys Phe Phe Val Glu Asp Pro Ile Lys Phe Glu Thr
 325 330 335
 Leu Ala Asn Val Phe Asn Gln Ser Ser Arg Phe Gly Arg Leu Gln Arg

340	345	350
Ile Gln Cys Ala Ile Ala Gly Lys Asn Leu Tyr Met Arg Phe Val Cys		
355	360	365
Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val Gln		
370	375	380
Asn Val Leu Asp Tyr Leu Gln Asn Glu Tyr Pro Asp Met Asp Val Ile		
385	390	395
Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala Val Asn		
	405	410
		415
Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Ile Thr		
	420	425
		430
Glu Glu Val Val Lys Lys Val Leu Lys Thr Glu Val Ala Ala Leu Val		
	435	440
		445
Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala Met Ala Gly Ala		
450	455	460
Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser Ala Val Phe		
465	470	475
		480
Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Ile Glu Ser Ser His Cys		
	485	490
		495
Ile Thr Met Met Glu Ala Val Asn Asp Gly Lys Asp Leu His Ile Ser		
	500	505
		510
Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln		
515	520	525
Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala		
530	535	540
Asn Arg Glu Ala Pro Gly Ser Asn Ala Arg Leu Leu Ala Thr Val Val		
545	550	555
		560
Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Ile Ser		
	565	570
		575
Ala Gly Gln Leu Val Asn Ser His Met Lys Tyr Asn Arg Ser Thr Lys		
580	585	590

Ala Ser Ser
595

<210> 255
<211> 833
<212> PRT
<213> Agrotis ipsilon

<400> 255

Met Lys Val Trp Gly Ala His Gly Glu Phe Cys Ala Arg His Gln Trp
1 5 10 15

Glu Val Ile Val Ala Thr Leu Ala Leu Leu Ala Cys Ala Ala Ser Val
20 25 30

Glu Arg Asn Gly Pro Gly Asn Arg Ser Glu His Cys Ala Gly Trp Ala
35 40 45

Arg Ala Cys Pro Gly Leu Glu Ala Glu Tyr Gln Ala Ala Asp Ala Val
50 55 60

Ile Met Thr Phe Val Arg Cys Ala Ala Leu Leu Tyr Ala Tyr Tyr Gln
65 70 75 80

Ile Ser Asn Leu His Lys Ile Ala Ser Lys Tyr Leu Leu Ile Ile Ala
85 90 95

Gly Val Phe Ser Thr Phe Ala Ser Phe Ile Phe Thr Ser Ala Val Ala
100 105 110

Ser Leu Phe Trp Ser Glu Leu Ala Ser Ile Lys Asp Ala Pro Phe Leu
115 120 125

Phe Leu Leu Val Ala Asp Val Ala Arg Gly Ala Arg Met Ala Lys Ala
130 135 140

Gly Trp Ser Ala Gly Glu Asp Gln Gly Lys Arg Val Gly Arg Ala Leu
145 150 155 160

Ala Leu Leu Gly Pro Thr Ala Thr Leu Asp Thr Leu Leu Ala Val Leu
165 170 175

Leu Val Gly Val Gly Ala Leu Ser Gly Val Pro Arg Leu Glu His Met
180 185 190

Cys Thr Phe Ala Cys Leu Ala Leu Leu Val Asp Tyr Leu Val Phe Val
 195 200 205
 Thr Phe Tyr Pro Ala Cys Leu Ser Leu Val Ala Asp Phe Ala Ser Gly
 210 215 220
 Arg Lys Glu Met Ser Pro Asp Ser Pro Phe Ser Glu Ala Asp Leu Lys
 225 230 235 240
 Pro Asn Pro Val Val Gln Arg Val Lys Met Ile Met Ala Ala Gly Leu
 245 250 255
 Leu Cys Val His Leu Thr Ser Arg Trp Pro Trp Ser Ser Asp Asn Gly
 260 265 270
 Ile Ile Glu Gly Pro Thr Asp Thr Leu Thr Pro Thr Ser Asn Asp Asn
 275 280 285
 Ile Leu Leu His Ser Tyr Val Lys Trp Phe Ser Val Ser Ala Asp Tyr
 290 295 300
 Ile Val Ile Ala Thr Leu Leu Cys Ala Leu Ile Ile Lys Phe Val Phe
 305 310 315 320
 Phe Glu Glu Gln Arg Asn Trp Val Ile Asp Met Asn Asp Met Thr Val
 325 330 335
 Lys Glu Val Val Gln Glu Gln Ala Arg Ser Lys Pro Lys Phe Ser Val
 340 345 350
 Gly Asp Asp Ser Asn Ser Glu Val Ser Thr Gln Thr Glu Gly Val Leu
 355 360 365
 Glu Asp Glu Trp Pro Thr Leu Ser Pro Ser Ser Ser Ala Ala Lys Leu
 370 375 380
 Asn Ser Lys Lys Arg Pro Met Ala Glu Cys Leu Glu Ile Tyr Arg Ser
 385 390 395 400
 Glu Gly Ala Cys Val Ser Leu Ser Asp Glu Glu Val Val Met Leu Val
 405 410 415
 Glu Gln Ser His Ile Pro Leu His Arg Leu Glu Ala Val Leu Gly Asp
 420 425 430
 Pro Leu Arg Gly Val Arg Leu Arg Arg Lys Val Val Gly Ala Arg Phe

435					440					445					
Gln	Thr	Glu	Leu	Ala	Ile	Lys	Gln	Leu	Pro	Tyr	Leu	Asn	Tyr	Asp	Tyr
450						455					460				
Ser	Lys	Val	Leu	Asn	Ala	Cys	Cys	Glu	Asn	Val	Ile	Gly	Tyr	Val	Gly
465					470					475					480
Val	Pro	Val	Gly	Tyr	Ala	Gly	Pro	Leu	Val	Val	Asp	Gly	Lys	Pro	Tyr
				485					490					495	
Met	Ile	Pro	Met	Ala	Thr	Thr	Glu	Gly	Ala	Leu	Val	Ala	Ser	Thr	Asn
			500					505					510		
Arg	Gly	Ala	Lys	Ala	Ile	Gly	Ile	Arg	Gly	Val	Thr	Ser	Val	Val	Glu
		515					520					525			
Asp	Val	Gly	Met	Thr	Arg	Ala	Pro	Ala	Ile	Lys	Leu	Pro	Asn	Val	Val
	530					535					540				
Arg	Ala	His	Glu	Cys	Arg	Gln	Trp	Ile	Asp	Asn	Lys	Asp	Asn	Tyr	Ala
545					550					555					560
Val	Ile	Lys	Glu	Ala	Phe	Asp	Ser	Thr	Ser	Arg	Phe	Ala	Arg	Leu	Gln
				565					570					575	
Glu	Ile	His	Ile	Gly	Val	Asp	Gly	Ala	Thr	Leu	Tyr	Leu	Arg	Phe	Arg
			580					585					590		
Ala	Thr	Thr	Gly	Asp	Ala	Met	Gly	Met	Asn	Met	Val	Ser	Lys	Gly	Ala
		595					600					605			
Glu	Asn	Ala	Leu	Lys	Leu	Leu	Lys	Asn	Tyr	Phe	Pro	Asp	Met	Glu	Val
	610					615					620				
Ile	Ser	Leu	Ser	Gly	Asn	Tyr	Cys	Ser	Asp	Lys	Lys	Ala	Ala	Ala	Ile
625					630					635					640
Asn	Trp	Val	Lys	Gly	Arg	Gly	Lys	Arg	Val	Val	Cys	Glu	Thr	Thr	Ile
				645					650					655	
Thr	Ser	Asp	Ser	Leu	Arg	Thr	Ile	Phe	Lys	Thr	Asp	Ala	Lys	Thr	Leu
			660					665					670		
Ala	Arg	Cys	Asn	Lys	Ile	Lys	Asn	Leu	Ser	Gly	Ser	Ala	Leu	Ala	Gly
		675					680					685			

Ser Ile Gly Gly Asn Asn Ala His Ala Ala Asn Met Val Thr Ala Ile
690 695 700

Tyr Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Thr Ser Ser Asn
705 710 715 720

Cys Ser Thr Asn Met Glu Val Cys Gly Glu Asn Gly Glu Asp Leu Tyr
725 730 735

Val Thr Cys Thr Met Pro Ser Leu Glu Val Gly Thr Val Gly Gly Gly
740 745 750

Thr Ile Leu Thr Gly Gln Gly Ala Cys Leu Asp Ile Leu Gly Val Lys
755 760 765

Gly Ala Gly Ala Arg Pro Ala Glu Asn Ser Ala Arg Leu Ala Ser Leu
770 775 780

Ile Cys Ala Thr Val Leu Ala Gly Glu Leu Ser Leu Met Ala Ala Leu
785 790 795 800

Val Asn Ser Asp Leu Val Lys Ser His Met Arg His Asn Arg Ser Thr
805 810 815

Val Asn Val Gln Val Gln Ala Glu Asn Ile Thr Leu Lys Val Pro Thr
820 825 830

Leu

<210> 256

<211> 934

<212> PRT

<213> Pichia jadinii

<400> 256

Met Phe Tyr His Gly Ala Ser Ala Asn Gln His Trp Ile Ala Val Asp
1 5 10 15

Asp Leu Ser Lys Val Pro Val Asp Val Asp His Tyr Asn Val Val Pro
20 25 30

Phe Gln Phe Arg Arg Ala Gly Glu Tyr Lys Glu Pro Val Leu Ser Gly
35 40 45

Ile Val Glu Leu Asp Glu Val Lys Phe Val Val Ser Gln Ser Asp Ala
 50 55 60
 Ala Glu Gln Trp Gln Gln Leu Thr Ala Glu Asp Gly Thr Val Trp Arg
 65 70 75 80
 Ser Arg Ala Tyr His Gly Lys Leu Gly Lys Tyr Ser Asp Met Ala Val
 85 90 95
 Gly Ala Phe Asn Lys Val Leu Asn Leu Val Arg Gly Ala Glu Thr Phe
 100 105 110
 Asp Ile Ala Leu Val Thr Cys Ala Tyr Ile Ala Met Phe Tyr Thr Leu
 115 120 125
 Phe Asn Leu Phe Ala Arg Met Arg Ala Val Gly Ser Lys Val Trp Leu
 130 135 140
 Gly Leu Ser Thr Leu Val Ser Ser Phe Phe Ala Phe Leu Phe Ala Leu
 145 150 155 160
 Tyr Ile Thr Thr Arg Val Leu Asp Leu Ser Ile Pro Phe Leu Ser Leu
 165 170 175
 Ser Glu Gly Ile Pro Phe Phe Val Ala Val Val Gly Phe Asn Asn Lys
 180 185 190
 Ile Leu Leu Ala Glu Lys Val Leu Gln Asn Gln Leu Asn Ala Gln Ser
 195 200 205
 Ser Lys Asn Asp Ala Pro Thr Val Leu Tyr Gln Ala Leu Arg Glu Gln
 210 215 220
 Gly Pro Leu Leu Leu Arg Asp His Leu Phe Met Ile Thr Ala Phe Leu
 225 230 235 240
 Gly Cys Ser Phe Tyr Ala Ser Tyr Leu Asp Gly Leu Lys Asn Phe Cys
 245 250 255
 Ile Leu Ala Ala Leu Ile Leu Ala Phe Asp Ile Leu Thr Thr Ser Thr
 260 265 270
 Phe Leu Ser Ala Ile Leu Ser Leu Lys Leu Glu Ile Asn Gln Ile His
 275 280 285
 Arg Ser Thr Leu Leu Arg Glu Gln Leu Glu Asp Asp Gly Leu Thr Glu

290	295	300															
Thr	Thr	Val	Asp	Asp	Val	Leu	Lys	Ser	Asn	Ser	Leu	Ala	Gly	Thr	Lys		
305					310					315					320		
Thr	Phe	Thr	Asp	Ala	Pro	Ser	Thr	Leu	Val	Thr	Val	Ala	Lys	Val	Ala		
				325					330					335			
Gly	Val	Ser	Val	Phe	Phe	Gly	Leu	His	Phe	Tyr	Gly	Phe	Gly	Ser	Ala		
			340					345					350				
Trp	Leu	Ser	Asp	Leu	Ser	Ala	Gly	Asn	Glu	Thr	Asn	Asp	Thr	Phe	Thr		
		355					360					365					
Leu	Tyr	Asp	Ala	Val	Ala	Asp	Gln	Ile	Pro	Ile	Gly	Ser	Asn	Gly	Thr		
	370					375					380						
Leu	Val	Thr	Leu	Phe	Pro	Thr	Arg	Phe	Phe	Leu	Pro	Glu	Lys	Leu	Ser		
385					390					395						400	
Thr	Gln	Ile	Glu	Ala	Val	Val	Leu	Ser	Phe	Ile	Gly	Leu	Ile	Ser	Thr		
				405					410					415			
Ala	Ala	Arg	Asp	Lys	Tyr	Ile	Ser	Lys	Phe	Ile	Leu	Phe	Ala	Phe	Ala		
			420					425					430				
Val	Ser	Ala	Ser	Ile	Asn	Val	Tyr	Leu	Leu	Asn	Val	Ala	Arg	Ile	His		
		435					440					445					
Thr	Thr	Arg	Leu	Glu	Asp	Ala	Ile	Glu	Leu	Lys	Lys	Pro	Lys	Lys	Lys		
	450					455					460						
Ala	Ser	Lys	Thr	Ala	Val	Ser	Val	Pro	Lys	Ala	Val	Val	Val	Lys	Asp		
465					470					475					480		
Ser	Glu	Thr	Thr	Lys	Ser	Ser	Glu	Ile	Leu	His	Ser	Ser	Ser	Glu	Ser		
				485					490					495			
Glu	Ser	Glu	Gln	Ser	Ser	Arg	Pro	Leu	Glu	Gln	Val	Ile	Glu	Leu	Tyr		
			500					505					510				
Lys	Asp	Gly	Lys	Val	Lys	Thr	Leu	Val	Asp	Asp	Glu	Val	Val	Ser	Leu		
		515					520					525					
Val	Thr	Ala	Gly	Lys	Leu	Pro	Leu	Tyr	Ala	Leu	Glu	Lys	Gln	Leu	Gly		
	530					535					540						

Asp Asn Leu Arg Ala Val Ala Ile Arg Arg Lys Ala Ile Ser Asp Leu
 545 550 555 560

Ala Asp Ala Pro Val Leu Arg Ser Asn Lys Leu Pro Tyr Leu His Tyr
 565 570 575

Asp Tyr Asp Arg Val Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr
 580 585 590

Met Pro Leu Pro Val Gly Val Ala Gly Pro Leu Ile Ile Asp Gly Lys
 595 600 605

Pro Tyr His Ile Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser
 610 615 620

Ala Met Arg Gly Cys Lys Ala Ile Asn Leu Gly Gly Gly Val Thr Thr
 625 630 635 640

Val Leu Thr Lys Asp Gly Met Thr Arg Gly Pro Cys Val Lys Phe Pro
 645 650 655

Ser Leu Lys Arg Ala Gly Gln Cys Lys Leu Trp Leu Asp Ser Asp Glu
 660 665 670

Gly Gln Glu Glu Met Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala
 675 680 685

Arg Leu Gln His Leu Gln Thr Ala Leu Ala Gly Asp Leu Leu Phe Ile
 690 695 700

Arg Phe Arg Thr Val Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser
 705 710 715 720

Lys Gly Val Glu Tyr Ala Leu Lys Gln Met Thr Glu Val Phe Gly Trp
 725 730 735

Asp Asp Met Met Val Val Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys
 740 745 750

Lys Pro Ala Ala Val Asn Trp Ile Asn Gly Arg Gly Lys Ser Val Val
 755 760 765

Ala Glu Ala Ser Ile Pro Lys Asp Ala Val Val Lys Val Leu Lys Ser
 770 775 780

Ser Val Lys Ala Val Val Asp Val Asn Val Asn Lys Asn Leu Ile Gly
785 790 795 800

Ser Ala Met Ala Gly Ser Val Gly Gly Phe Asn Ala Gln Ala Ala Asn
805 810 815

Met Val Thr Ala Val Tyr Leu Ala Leu Gly Gln Asp Pro Ala Gln Asn
820 825 830

Val Glu Ser Ser Asn Cys Ile Thr Leu Met Thr Glu Thr Glu Asp Gly
835 840 845

Asp Leu Lys Val Ser Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile
850 855 860

Gly Gly Gly Thr Ile Leu Asp Pro Gln Gly Ser Met Leu Glu Leu Leu
865 870 875 880

Gly Val Arg Gly Pro Ala Asp Val Pro Gly Glu Asn Ala Arg Gln Leu
885 890 895

Ala Lys Ile Val Ala Ser Ile Val Leu Ser Gly Glu Leu Ser Leu Val
900 905 910

Ser Ala Leu Ala Ala Gly His Leu Val Gln Ser His Met Gln His Asn
915 920 925

Arg Ala Ala Ala Lys Lys
930

<210> 257
<211> 628
<212> PRT
<213> Gossypium hirsutum

<400> 257

Met Glu Ala Ser Arg Arg Ser Ala Val Lys Pro Val Ile Val Leu Lys
1 5 10 15

Pro Ser Lys Arg Phe Pro Leu Val Glu Asp Thr Pro Gly Lys Ala Ser
20 25 30

Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr
35 40 45

Leu Phe Phe Thr Val Val Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys

50		55		60
Ile Arg Ala Ser Ile Pro Leu His Ala Val Thr Phe Pro Glu Ile Val				
65		70		75
				80
Ala Ile Phe Ala Phe Val Ala Ser Leu Ile Tyr Leu Leu Gly Phe Phe				
	85		90	95
Gly Ile Asp Phe Val Gln Ser Leu Ile Ile Arg Pro Ser Gly Asp Val				
	100		105	110
Trp Ser Gly Glu Asp Tyr Glu Glu Glu Asn Glu Val Leu Leu His Glu				
	115		120	125
Glu Asp Ala Arg Thr Val Pro Cys Gly Gln Ala Leu Asp Cys Ser Val				
	130		135	140
Pro Ser Leu Pro His Met Ala Arg Asn Val Thr Ala Gln Arg Leu Phe				
145		150		155
				160
Asp Glu Lys Pro Val Arg Val Ala Thr Glu Glu Asp Ala Arg Lys Val				
	165		170	175
Ser Cys Gly Gln Ala Val Asp Cys Ser Leu His Ser Leu Pro Pro Arg				
	180		185	190
Pro Pro Ile Val Thr Ser Gln Lys Leu Phe His Glu Lys Thr Val Ile				
	195		200	205
Val Thr Thr Glu Glu Asp Glu Glu Ile Ile Lys Ser Val Val Ala Gly				
	210		215	220
Thr Leu Pro Ser Tyr Ser Leu Glu Ser Lys Leu Gly Asp Cys Lys Arg				
225		230		235
				240
Ala Ala Ala Ile Arg Arg Glu Ala Leu Gln Arg Leu Thr Gly Arg Ser				
	245		250	255
Leu Ser Gly Leu Pro Leu Asp Gly Phe Asp Tyr Glu Ser Ile Leu Gly				
	260		265	270
Gln Cys Cys Glu Met Pro Val Gly Tyr Val Gln Ile Pro Val Gly Ile				
	275		280	285
Ala Gly Pro Leu Leu Leu Asn Gly Arg Glu Tyr Ser Val Pro Met Ala				
	290		295	300

Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala
 305 310 315 320

Ile His Leu Ser Gly Gly Ala Thr Ser Ile Leu Leu Lys Asp Gly Met
 325 330 335

Thr Arg Ala Pro Val Val Arg Phe Ser Thr Ala Lys Arg Ala Ala Glu
 340 345 350

Leu Lys Phe Tyr Leu Glu Asp Pro Glu Asn Phe Asp Thr Leu Ala Val
 355 360 365

Val Phe Asn Arg Ser Ser Arg Phe Gly Arg Leu Gln Ser Ile Lys Cys
 370 375 380

Ala Ile Ala Gly Lys Asn Leu Tyr Leu Arg Phe Thr Cys Ser Thr Gly
 385 390 395 400

Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val Leu
 405 410 415

Asp Phe Leu Gln Thr Asp Phe Pro Asp Met Asp Val Ile Gly Ile Ser
 420 425 430

Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu
 435 440 445

Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Ile Glu Gly Asp Val
 450 455 460

Val Arg Lys Val Leu Lys Thr Ser Val Glu Ser Leu Val Glu Leu Asn
 465 470 475 480

Met Leu Lys Asn Leu Thr Gly Ser Ala Met Ala Gly Ala Leu Gly Gly
 485 490 495

Phe Asn Ala His Ala Ser Asn Ile Val Thr Ala Ile Tyr Ile Ala Thr
 500 505 510

Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser His Cys Ile Thr Met
 515 520 525

Met Glu Ala Val Asn Asp Gly Lys Asp Leu His Ile Ser Val Thr Met
 530 535 540

Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser
 545 550 555 560

Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Ser Lys Asp
 565 570 575

Val Ala Gly Ala Asn Ser Arg Met Leu Ala Thr Ile Val Thr Gly Ala
 580 585 590

Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Leu Ala Ala Gly Gln
 595 600 605

Leu Val Lys Ser His Met Lys Tyr Asn Arg Ser Ser Lys Asp Met Ser
 610 615 620

Asn Leu Ser Ser
 625

<210> 258
 <211> 585
 <212> PRT
 <213> Gossypium hirsutum

<400> 258

Met Glu Thr His Arg Arg Ser Ser Thr Asn Ser Ile Arg Ser His Lys
 1 5 10 15

Pro Ala Arg Pro Ile Ala Leu Glu Asp Asp Ser Thr Lys Ala Ser Asp
 20 25 30

Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr Leu
 35 40 45

Phe Phe Ser Ala Val Tyr Phe Leu Leu Cys Arg Trp Arg Glu Lys Ile
 50 55 60

Arg Ser Ser Thr Pro Leu His Val Val Thr Phe Ser Glu Ile Val Ala
 65 70 75 80

Ile Leu Ala Ser Val Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe Gly
 85 90 95

Ile Asp Phe Val Gln Ser Leu Val Leu Arg Pro Ser Ala Asp Val Trp
 100 105 110

Ala Thr Glu Asp Asp Glu Val Glu Ser Glu Val Leu Leu Arg Asn Glu

115		120		125											
Asp	Ala	Arg	His	Val	Pro	Cys	Gly	Gln	Ala	Leu	Asp	Arg	Ser	Ile	Arg
130						135					140				
Ser	Leu	Gln	Pro	Pro	Glu	Pro	Ile	Val	Thr	Ala	Glu	Lys	Val	Phe	Asp
145					150					155					160
Glu	Met	Pro	Val	Thr	Val	Met	Thr	Glu	Glu	Asp	Glu	Glu	Ile	Ile	Arg
				165					170						175
Ser	Val	Val	Cys	Gly	Met	Thr	Pro	Ser	Tyr	Ser	Leu	Glu	Ser	Lys	Leu
			180					185						190	
Asp	Asp	Cys	Lys	Arg	Ala	Ala	Ala	Ile	Arg	Arg	Glu	Ala	Leu	Gln	Arg
		195					200					205			
Ile	Thr	Gly	Lys	Ser	Leu	Ser	Gly	Leu	Pro	Leu	Asp	Gly	Phe	Asp	Tyr
	210					215					220				
Glu	Ser	Ile	Leu	Gly	Gln	Cys	Cys	Glu	Met	Pro	Val	Gly	Tyr	Glu	Gln
225					230					235					240
Ile	Pro	Val	Gly	Ile	Ala	Gly	Pro	Leu	Leu	Leu	Asn	Gly	Arg	Glu	Tyr
				245					250					255	
Ser	Val	Pro	Met	Ala	Thr	Thr	Glu	Gly	Cys	Leu	Val	Ala	Ser	Thr	Asn
			260					265						270	
Arg	Gly	Cys	Lys	Ala	Ile	His	Leu	Ser	Gly	Gly	Ala	Thr	Ser	Val	Leu
		275					280					285			
Leu	Arg	Asp	Gly	Met	Thr	Arg	Ala	Pro	Val	Val	Arg	Phe	Gly	Thr	Ala
	290					295					300				
Lys	Arg	Ala	Ala	Asp	Leu	Lys	Leu	Tyr	Leu	Glu	Asp	Pro	Glu	Asn	Phe
305					310					315					320
Glu	Thr	Leu	Ala	Cys	Val	Phe	Asn	Arg	Ser	Ser	Arg	Phe	Ala	Arg	Leu
				325					330					335	
Gln	Ser	Ile	Lys	Cys	Ala	Ile	Ala	Gly	Lys	Asn	Leu	Tyr	Leu	Arg	Phe
			340					345					350		
Ser	Cys	Phe	Thr	Gly	Asp	Ala	Met	Gly	Met	Asn	Met	Val	Ser	Lys	Gly
		355					360					365			

Val Gln Asn Val Leu Asp Phe Leu Gln Thr Asp Phe Pro Asp Met Asp
370 375 380

Val Ile Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala
385 390 395 400

Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile
405 410 415

Ile Asn Gly Asp Val Val Thr Lys Val Leu Lys Thr Ser Val Glu Ser
420 425 430

Leu Val Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala Met Ala
435 440 445

Gly Ala Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Thr Ala
450 455 460

Val Tyr Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser
465 470 475 480

His Cys Ile Thr Met Met Glu Ala Val Asn Gly Gly Lys Asp Leu His
485 490 495

Val Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly
500 505 510

Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys
515 520 525

Gly Ala Ser Lys Glu Ser Pro Gly Ala Asn Ser Ile Leu Leu Ala Thr
530 535 540

Ile Val Ala Gly Ala Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala
545 550 555 560

Leu Ala Ala Gly Gln Leu Val Lys Ser His Met Lys Tyr Asn Arg Ser
565 570 575

Ser Lys Asp Val Ser Lys Val Ser Ser
580 585

<210> 259
<211> 413
<212> PRT

<213> Pyrococcus horikoshii

<400> 259

Met Gly Gly Gly Asn Leu Asn Ile Glu Glu Ile Ile Glu Lys Val Ala
1 5 10 15

Asn Gly Glu Ile Lys Phe Tyr Gln Val Glu Lys Tyr Val Asn Gly Asp
20 25 30

Lys Arg Leu Ala Thr Glu Ile Arg Arg Lys Ala Leu Glu Lys Arg Leu
35 40 45

Gly Ile Lys Leu His His Ile Gly Tyr Tyr Ser Ile Asp Pro Asn Glu
50 55 60

Leu Ile Gly Arg Asn Ile Glu Asn Met Ile Gly Val Val Gln Ile Pro
65 70 75 80

Met Gly Val Ala Gly Pro Leu Lys Ile Asn Gly Glu Tyr Ala Lys Gly
85 90 95

Glu Phe Tyr Ile Pro Leu Ala Thr Thr Glu Gly Ala Leu Val Ala Ser
100 105 110

Val Asn Arg Gly Cys Ser Ala Leu Thr Glu Ala Gly Gly Val Val Thr
115 120 125

Thr Leu Ile Asp Asp Lys Met Thr Arg Ala Pro Leu Ile Arg Cys Pro
130 135 140

Asn Ala Arg Arg Ala Arg Glu Val Ala Lys Trp Val Glu Glu Asn Leu
145 150 155 160

Asp Tyr Leu Gln Glu Lys Ala Val Ser Lys Val Thr Arg His Gly Lys
165 170 175

Leu Arg Gly Val Lys Pro Phe Ile Val Gly Asn Asn Leu Tyr Leu Arg
180 185 190

Phe Glu Phe Glu Thr Gly Asp Ala Met Gly Met Asn Met Val Thr Ile
195 200 205

Ala Ser Glu Glu Ile Met Lys Val Ile Glu Glu Glu Phe Pro Asp Val
210 215 220

Arg Tyr Leu Ala Leu Ser Gly Asn Leu Cys Val Asp Lys Lys Pro Asn

225 230 235 240
 Ala Val Asn Phe Ile Leu Gly Arg Gly Lys Thr Val Ile Ala Glu Ala
 245 250 255
 Val Val Pro Arg Lys Ile Val Glu Lys Lys Leu Lys Thr Thr Pro Glu
 260 265 270
 Leu Ile Ala Glu Val Asn Tyr Phe Lys Asn Leu Val Gly Ser Ala Gln
 275 280 285
 Ala Gly Ser Tyr Gly Phe Asn Ala His Phe Ala Asn Ile Val Gly Ala
 290 295 300
 Ile Phe Leu Ala Thr Gly Gln Asp Glu Ala Gln Ile Thr Glu Gly Ala
 305 310 315 320
 His Gly Ile Thr Ile Ala Glu Val Thr Pro Asp Gly Asp Leu Tyr Ile
 325 330 335
 Ser Ile Thr Met Pro Ser Leu Glu Ile Gly Thr Val Gly Gly Gly Thr
 340 345 350
 Arg Val Pro Ser Gln Arg Glu Ala Leu Glu Ile Met Gly Val Ala Gly
 355 360 365
 Gly Gly Asp Pro Pro Gly Ile Asn Ala Lys Lys Phe Ala Glu Ile Val
 370 375 380
 Ala Gly Ala Val Leu Ala Gly Glu Leu Ser Leu Leu Ala Ala Ile Ala
 385 390 395 400
 Ala Lys His Leu Ala Arg Ala His Lys Met Leu Gly Arg
 405 410

<210> 260
 <211> 431
 <212> PRT
 <213> *Borrelia burgdorferi*

<400> 260

Met Asn Leu Glu Ser Leu Ser Ser Phe Met Glu Leu Ser Lys Asn Phe
 1 5 10 15

Arg His Lys Ser Val Leu Glu Lys Arg Gln Glu Ile Lys Ser Phe Leu
 20 25 30

Glu Leu Ser Tyr Lys Asp Phe Phe Tyr Asn Asn Ala Asn Glu Asp Phe
 35 40 45

Leu Phe Asn Met Ile Glu Asn Tyr Ile Gly Tyr Leu Ser Phe Pro Ile
 50 55 60

Gly Ile Val Lys Asn Leu Lys Ile Asn Gly Lys Tyr Tyr Ser Leu Pro
 65 70 75 80

Ile Ala Thr Glu Glu Ser Ser Val Val Ala Ala Leu Asn Phe Ala Ala
 85 90 95

Lys Ile Leu Glu Asn Ala Asp Leu Arg Tyr Ser Leu Gly Glu Val Leu
 100 105 110

Gly Ile Ser Gln Ile Tyr Ile Lys Ser Glu Lys Asp Leu Ser Lys Ile
 115 120 125

Phe Val Asp Leu Gly Asp Lys Ile Lys Thr Trp Ile Glu Pro Leu Leu
 130 135 140

Thr Asn Met Asn Gln Arg Gly Gly Gly Phe Arg Arg Leu Ser Thr Arg
 145 150 155 160

His Ile Lys Glu Leu Gly Ile Gln Lys Leu Asn Ile Tyr Val Asp Thr
 165 170 175

Cys Asp Ala Met Gly Ala Asn Leu Leu Asn Ser Ile Ala Glu Arg Val
 180 185 190

Ala Glu Phe Ile Phe Leu Glu Phe Gly Tyr Glu Cys Val Leu Lys Val
 195 200 205

Leu Ser Asn Asp Ile Ser Glu Phe Thr Ala Lys Ala Arg Phe Val Leu
 210 215 220

Asp Phe Lys His Leu Leu Pro Gly Lys Glu Asp Ser Trp Asn Leu Ala
 225 230 235 240

Lys Lys Ile Glu Leu Ile Ser Ser Ile Gly Phe Tyr Glu Glu Glu Arg
 245 250 255

Ala Val Thr Asn Asn Lys Gly Ile Met Asn Gly Ile Thr Gly Val Cys
 260 265 270

Leu Ala Thr Phe Asn Asp Thr Arg Ala Leu Glu Ala Ser Val His Lys
275 280 285

Phe Ala Ser Lys Ser Gly Lys Tyr Phe Pro Leu Ser Lys Phe Tyr Thr
290 295 300

Thr Asp Asn Ala Leu Val Gly Glu Ile Glu Ile Pro Leu Gln Val Gly
305 310 315 320

Thr Lys Gly Gly Val Ile Ser Phe Asn Glu Ala Ser Ile Leu Ser Phe
325 330 335

Lys Ile Met Asn Val Asn Ser Lys Ser Glu Phe Ile Gly Ile Leu Ser
340 345 350

Cys Val Gly Leu Ala Ser Asn Phe Ala Ala Leu Arg Ala Leu Ala Phe
355 360 365

Asn Gly Ile Gln Lys Gly His Met Arg Leu His Val Asn Lys Ile Leu
370 375 380

His Leu Leu Lys Thr Lys Tyr Asn Ile Ser Asp Phe Glu Lys Asp Lys
385 390 395 400

Leu Leu Leu Glu Met Glu Arg Met Asn Ile Tyr Ser Phe Asp Phe Ala
405 410 415

Phe Lys Ile Leu Lys Lys Ile Arg Leu Glu Asn Glu Asn Lys Val
420 425 430

<210> 261
<211> 579
<212> PRT
<213> Zea mays

<400> 261

Met Glu Val Arg Gly Gly Val Gly Gln Gly Ser Ala Ala Arg His Pro
1 5 10 15

Pro Ala Pro Glu Pro Ser Arg Ala Ala Ala Arg Val Gln Ala Gly Asp
20 25 30

Ala Leu Pro Leu Pro Ile Arg His Thr Asn Leu Ile Phe Ser Ala Leu
35 40 45

Phe Ala Ala Ser Leu Ala Tyr Leu Met Arg Arg Trp Arg Glu Lys Ile
50 55 60

Arg Ser Ser Thr Pro Leu His Ala Val Gly Leu Ala Glu Met Leu Ala
65 70 75 80

Ile Phe Gly Leu Val Ala Ser Leu Ile Tyr Leu Leu Ser Phe Phe Gly
85 90 95

Ile Ala Phe Val Gln Ser Ile Val Ser Ser Gly Asp Asp Asp Glu Asp
100 105 110

Phe Leu Val Gly Ser Gly Ser Ser Gly Ser Ala Ala Ala Pro Ser Arg
115 120 125

Gln His Ala Gln Ala Pro Ala Pro Cys Glu Leu Leu Gly Ser Pro Ala
130 135 140

Ala Ala Pro Glu Lys Met Pro Glu Asp Asp Glu Glu Ile Val Ala Ser
145 150 155 160

Val Val Ala Gly Lys Val Pro Ser Tyr Ala Leu Glu Ala Arg Leu Gly
165 170 175

Asp Cys Arg Arg Ala Ala Gly Ile Arg Arg Glu Ala Leu Arg Arg Ile
180 185 190

Thr Gly Arg Asp Ile Glu Gly Leu Pro Leu Asp Gly Phe Asp Tyr Ala
195 200 205

Ser Ile Leu Gly Gln Cys Cys Glu Leu Pro Val Gly Tyr Val Gln Leu
210 215 220

Pro Val Gly Val Ala Gly Pro Leu Leu Leu Asp Gly Arg Arg Phe Tyr
225 230 235 240

Leu Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg
245 250 255

Gly Cys Lys Ala Ile Ala Glu Ser Gly Gly Ala Thr Ser Val Val Leu
260 265 270

Arg Asp Ala Met Thr Arg Ala Pro Val Ala Arg Phe Pro Thr Ala Arg
275 280 285

Arg Ala Ala Glu Leu Lys Ala Phe Leu Glu Asp Pro Ala Asn Phe Asp
290 295 300

Thr Leu Ser Val Val Phe Asn Arg Ser Ser Arg Phe Ala Arg Leu Gln
 305 310 315 320

Gly Val Gln Cys Ala Met Ala Gly Arg Asn Leu Tyr Met Arg Phe Ser
 325 330 335

Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val
 340 345 350

Gln Asn Val Leu Asp Phe Leu Gln Asp Asp Phe His Asp Met Asp Val
 355 360 365

Ile Ser Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ser Ala Val
 370 375 380

Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Val Ile
 385 390 395 400

Gly Glu Glu Val Val Lys Lys Val Leu Lys Thr Asp Val Gln Ser Leu
 405 410 415

Val Glu Leu Asn Thr Ile Lys Asn Leu Ala Gly Ser Ala Val Ala Gly
 420 425 430

Ala Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Thr Ala Ile
 435 440 445

Phe Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser His
 450 455 460

Cys Ile Thr Met Leu Glu Pro Val Asn Ala Gly Arg Asp Leu His Ile
 465 470 475 480

Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr
 485 490 495

Gln Leu Ala Ser Gln Ser Ala Cys Leu Asp Leu Leu Gly Val Arg Gly
 500 505 510

Ala Ser Arg Asp Arg Pro Gly Ser Asn Ala Arg Leu Leu Ala Thr Val
 515 520 525

Val Ala Gly Gly Val Leu Ala Gly Glu Leu Ser Leu Leu Ser Ala Leu
 530 535 540

Ala Ala Gly Gln Leu Val Lys Ser His Met Lys Tyr Asn Arg Ser Ser
545 550 555 560

Lys Asp Val Ser Ser Thr Thr Ala Thr Glu Lys Thr Arg Gln Arg Glu
565 570 575

Val Asp Val

<210> 262
<211> 888
<212> PRT
<213> HUMAN

<400> 262

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
20 25 30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
35 40 45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
50 55 60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65 70 75 80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
85 90 95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
100 105 110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
115 120 125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Thr Leu Ala Lys Phe Ala
130 135 140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
145 150 155 160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
165 170 175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
180 185 190

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
195 200 205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
210 215 220

Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
225 230 235 240

Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
245 250 255

Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
260 265 270

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Ala Asp Thr Ser Lys
275 280 285

Val Ser Leu Gly Leu Asp Glu Asn Val Ser Lys Arg Ile Glu Pro Ser
290 295 300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
305 310 315 320

Glu Gln Val Ile Thr Leu Ser Leu Ala Leu Leu Leu Ala Val Lys Tyr
325 330 335

Ile Phe Phe Glu Gln Thr Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
340 345 350

Pro Ile Thr Ser Pro Val Val Thr Gln Lys Lys Val Pro Asp Asn Cys
355 360 365

Cys Arg Arg Glu Pro Met Leu Val Arg Asn Asn Gln Lys Cys Asp Ser
370 375 380

Val Glu Glu Glu Thr Gly Ile Asn Arg Glu Arg Lys Val Glu Val Ile
385 390 395 400

Lys Pro Leu Val Ala Glu Thr Asp Thr Pro Asn Arg Ala Thr Phe Val
405 410 415

Val Gly Asn Ser Ser Leu Leu Asp Thr Ser Ser Val Leu Val Thr Gln
420 425 430

Glu Pro Glu Ile Glu Leu Pro Arg Glu Pro Arg Pro Asn Glu Glu Cys
435 440 445

Leu Gln Ile Leu Gly Asn Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp
450 455 460

Ala Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys
465 470 475 480

Leu Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg
485 490 495

Gln Leu Leu Ser Lys Lys Leu Ser Glu Pro Ser Ser Leu Gln Tyr Leu
500 505 510

Pro Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu
515 520 525

Asn Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu
530 535 540

Cys Leu Asp Glu Lys Glu Phe Gln Val Pro Met Ala Thr Thr Glu Gly
545 550 555 560

Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly
565 570 575

Gly Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro
580 585 590

Val Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp
595 600 605

Leu Glu Thr Ser Glu Gly Phe Ala Val Ile Lys Glu Ala Phe Asp Ser
610 615 620

Thr Ser Arg Phe Ala Arg Leu Gln Lys Leu His Thr Ser Ile Ala Gly
625 630 635 640

Arg Asn Leu Tyr Ile Arg Phe Gln Ser Arg Ser Gly Asp Ala Met Gly
645 650 655

Met Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Ser Lys Leu His
660 665 670

Glu Tyr Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys
675 680 685

Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys
690 695 700

Ser Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val
705 710 715 720

Leu Lys Thr Thr Thr Glu Ala Met Ile Glu Val Asn Ile Asn Lys Asn
725 730 735

Leu Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His
740 745 750

Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala
755 760 765

Ala Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser
770 775 780

Gly Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile
785 790 795 800

Glu Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala
805 810 815

Cys Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly
820 825 830

Glu Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala
835 840 845

Gly Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Lys
850 855 860

Ser His Met Ile His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln
865 870 875 880

Gly Ala Cys Thr Lys Lys Thr Ala
885

<210> 263

<211> 887
 <212> PRT
 <213> Mesocricetus auratus

<400> 263

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
 1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
 20 25 30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
 35 40 45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
 50 55 60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
 65 70 75 80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
 85 90 95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
 100 105 110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
 115 120 125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Ala Leu Ala Lys Phe Ala
 130 135 140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
 145 150 155 160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
 165 170 175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
 180 185 190

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
 195 200 205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
 210 215 220

Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
 225 230 235 240

Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
 245 250 255

Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
 260 265 270

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Thr Glu His Ser Lys
 275 280 285

Val Ser Leu Gly Leu Asp Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
 290 295 300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
 305 310 315 320

Glu Gln Val Val Thr Leu Ser Leu Ala Phe Leu Leu Ala Val Lys Tyr
 325 330 335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
 340 345 350

Pro Ile Thr Ser Pro Val Val Thr Pro Lys Lys Ala Pro Asp Asn Cys
 355 360 365

Cys Arg Arg Glu Pro Leu Leu Val Arg Arg Ser Glu Lys Leu Ser Ser
 370 375 380

Val Glu Glu Glu Pro Gly Val Ser Gln Asp Arg Lys Val Glu Val Ile
 385 390 395 400

Lys Pro Leu Val Val Glu Thr Glu Ser Ala Ser Arg Ala Thr Phe Val
 405 410 415

Leu Gly Ala Ser Gly Thr Ser Pro Pro Val Ala Ala Arg Thr Gln Glu
 420 425 430

Leu Glu Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
 435 440 445

Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
 450 455 460

Glu	Ile	Ile	Gln	Leu	Val	Asn	Ala	Lys	His	Ile	Pro	Ala	Tyr	Lys	Leu	465	470	475	480
Glu	Thr	Leu	Met	Glu	Thr	His	Glu	Arg	Gly	Val	Ser	Ile	Arg	Arg	Gln	485	490	495	
Leu	Leu	Ser	Thr	Lys	Leu	Pro	Glu	Pro	Ser	Ser	Leu	Gln	Tyr	Leu	Pro	500	505	510	
Tyr	Arg	Asp	Tyr	Asn	Tyr	Ser	Leu	Val	Met	Gly	Ala	Cys	Cys	Glu	Asn	515	520	525	
Val	Ile	Gly	Tyr	Met	Pro	Ile	Pro	Val	Gly	Val	Ala	Gly	Pro	Leu	Cys	530	535	540	
Leu	Asp	Gly	Lys	Glu	Tyr	Gln	Val	Pro	Met	Ala	Thr	Thr	Glu	Gly	Cys	545	550	555	560
Leu	Val	Ala	Ser	Thr	Asn	Arg	Gly	Cys	Arg	Ala	Ile	Gly	Leu	Gly	Gly	565	570	575	
Gly	Ala	Ser	Ser	Arg	Val	Leu	Ala	Asp	Gly	Met	Thr	Arg	Gly	Pro	Val	580	585	590	
Val	Arg	Leu	Pro	Arg	Ala	Cys	Asp	Ser	Ala	Glu	Val	Lys	Ala	Trp	Leu	595	600	605	
Glu	Thr	Pro	Glu	Gly	Phe	Ala	Val	Ile	Lys	Asp	Ala	Phe	Asp	Ser	Thr	610	615	620	
Ser	Arg	Phe	Ala	Arg	Leu	Gln	Lys	Leu	His	Val	Thr	Met	Ala	Gly	Arg	625	630	635	640
Asn	Leu	Tyr	Ile	Arg	Phe	Gln	Ser	Lys	Thr	Gly	Asp	Ala	Met	Gly	Met	645	650	655	
Asn	Met	Ile	Ser	Lys	Gly	Thr	Glu	Lys	Ala	Leu	Leu	Lys	Leu	Gln	Glu	660	665	670	
Phe	Phe	Pro	Glu	Met	Gln	Ile	Leu	Ala	Val	Ser	Gly	Asn	Tyr	Cys	Thr	675	680	685	
Asp	Lys	Lys	Pro	Ala	Ala	Ile	Asn	Trp	Ile	Glu	Gly	Arg	Gly	Lys	Thr	690	695	700	
Val	Val	Cys	Glu	Ala	Val	Ile	Pro	Ala	Lys	Val	Val	Arg	Glu	Val	Leu				

705		710		715		720
Lys Thr Thr Thr	Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn Leu					
	725			730		735
Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala						
	740			745		750
Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala						
	755			760		765
Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly						
	770			775		780
Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu						
	785			790		795
Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys						
	805			810		815
Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu						
	820			825		830
Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly						
	835			840		845
Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser						
	850			855		860
His Met Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly						
	865			870		875
						880
Thr Cys Thr Lys Lys Ser Ala						
	885					

<210> 264
 <211> 1045
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 264

Met Ser Leu Pro Leu Lys Thr Ile Val His Leu Val Lys Pro Phe Ala
1 5 10 15

Cys Thr Ala Arg Phe Ser Ala Arg Tyr Pro Ile His Val Ile Val Val
20 25 30

Ala Val Leu Leu Ser Ala Ala Ala Tyr Leu Ser Val Thr Gln Ser Tyr
 35 40 45
 Leu Asn Glu Trp Lys Leu Asp Ser Asn Gln Tyr Ser Thr Tyr Leu Ser
 50 55 60
 Ile Lys Pro Asp Glu Leu Phe Glu Lys Cys Thr His Tyr Tyr Arg Ser
 65 70 75 80
 Pro Val Ser Asp Thr Trp Lys Leu Leu Ser Ser Lys Glu Ala Ala Asp
 85 90 95
 Ile Tyr Thr Pro Phe His Tyr Tyr Leu Ser Thr Ile Ser Phe Gln Ser
 100 105 110
 Lys Asp Asn Ser Thr Thr Leu Pro Ser Leu Asp Asp Val Ile Tyr Ser
 115 120 125
 Val Asp His Thr Arg Tyr Leu Leu Ser Glu Glu Pro Lys Ile Pro Thr
 130 135 140
 Glu Leu Val Ser Glu Asn Gly Thr Lys Trp Arg Leu Arg Asn Asn Ser
 145 150 155 160
 Asn Phe Ile Leu Asp Leu His Asn Ile Tyr Arg Asn Met Val Lys Gln
 165 170 175
 Phe Ser Asn Lys Thr Ser Glu Phe Asp Gln Phe Asp Leu Phe Ile Ile
 180 185 190
 Leu Ala Ala Tyr Leu Thr Leu Phe Tyr Thr Leu Cys Cys Leu Phe Asn
 195 200 205
 Asp Met Arg Lys Ile Gly Ser Lys Phe Trp Leu Ser Phe Ser Ala Leu
 210 215 220
 Ser Asn Ser Ala Cys Ala Leu Tyr Leu Ser Leu Tyr Thr Thr His Ser
 225 230 235 240
 Leu Leu Lys Lys Pro Ala Ser Leu Leu Ser Leu Val Ile Gly Leu Pro
 245 250 255
 Phe Ile Val Val Ile Ile Gly Phe Lys His Lys Val Arg Leu Ala Ala
 260 265 270

Phe Ser Leu Gln Lys Phe His Arg Ile Ser Ile Asp Lys Lys Ile Thr
275 280 285

Val Ser Asn Ile Ile Tyr Glu Ala Met Phe Gln Glu Gly Ala Tyr Leu
290 295 300

Ile Arg Asp Tyr Leu Phe Tyr Ile Ser Ser Phe Ile Gly Cys Ala Ile
305 310 315 320

Tyr Ala Arg His Leu Pro Gly Leu Val Asn Phe Cys Ile Leu Ser Thr
325 330 335

Phe Met Leu Val Phe Asp Leu Leu Leu Ser Ala Thr Phe Tyr Ser Ala
340 345 350

Ile Leu Ser Met Lys Leu Glu Ile Asn Ile Ile His Arg Ser Thr Val
355 360 365

Ile Arg Gln Thr Leu Glu Glu Asp Gly Val Val Pro Thr Thr Ala Asp
370 375 380

Ile Ile Tyr Lys Asp Glu Thr Ala Ser Glu Pro His Phe Leu Arg Ser
385 390 395 400

Asn Val Ala Ile Ile Leu Gly Lys Ala Ser Val Ile Gly Leu Leu Leu
405 410 415

Leu Ile Asn Leu Tyr Val Phe Thr Asp Lys Leu Asn Ala Thr Ile Leu
420 425 430

Asn Thr Val Tyr Phe Asp Ser Thr Ile Tyr Ser Leu Pro Asn Phe Ile
435 440 445

Asn Tyr Lys Asp Ile Gly Asn Leu Ser Asn Gln Val Ile Ile Ser Val
450 455 460

Leu Pro Lys Gln Tyr Tyr Thr Pro Leu Lys Lys Tyr His Gln Ile Glu
465 470 475 480

Asp Ser Val Leu Leu Ile Ile Asp Ser Val Ser Asn Ala Ile Arg Asp
485 490 495

Gln Phe Ile Ser Lys Leu Leu Phe Phe Ala Phe Ala Val Ser Ile Ser
500 505 510

Ile Asn Val Tyr Leu Leu Asn Ala Ala Lys Ile His Thr Gly Tyr Met

515					520					525					
Asn	Phe	Gln	Pro	Gln	Ser	Asn	Lys	Ile	Asp	Asp	Leu	Val	Val	Gln	Gln
530						535					540				
Lys	Ser	Ala	Thr	Ile	Glu	Phe	Ser	Glu	Thr	Arg	Ser	Met	Pro	Ala	Ser
545					550					555					560
Ser	Gly	Leu	Glu	Thr	Pro	Val	Thr	Ala	Lys	Asp	Ile	Ile	Ile	Ser	Glu
				565					570					575	
Glu	Ile	Gln	Asn	Asn	Glu	Cys	Val	Tyr	Ala	Leu	Ser	Ser	Gln	Asp	Glu
			580					585					590		
Pro	Ile	Arg	Pro	Leu	Ser	Asn	Leu	Val	Glu	Leu	Met	Glu	Lys	Glu	Gln
		595					600					605			
Leu	Lys	Asn	Met	Asn	Asn	Thr	Glu	Val	Ser	Asn	Leu	Val	Val	Asn	Gly
	610					615					620				
Lys	Leu	Pro	Leu	Tyr	Ser	Leu	Glu	Lys	Lys	Leu	Glu	Asp	Thr	Thr	Arg
625					630					635					640
Ala	Val	Leu	Val	Arg	Arg	Lys	Ala	Leu	Ser	Thr	Leu	Ala	Glu	Ser	Pro
				645					650					655	
Ile	Leu	Val	Ser	Glu	Lys	Leu	Pro	Phe	Arg	Asn	Tyr	Asp	Tyr	Asp	Arg
			660					665					670		
Val	Phe	Gly	Ala	Cys	Cys	Glu	Asn	Val	Ile	Gly	Tyr	Met	Pro	Ile	Pro
		675					680					685			
Val	Gly	Val	Ile	Gly	Pro	Leu	Ile	Ile	Asp	Gly	Thr	Ser	Tyr	His	Ile
	690					695					700				
Pro	Met	Ala	Thr	Thr	Glu	Gly	Cys	Leu	Val	Ala	Ser	Ala	Met	Arg	Gly
705					710					715					720
Cys	Lys	Ala	Ile	Asn	Ala	Gly	Gly	Gly	Ala	Thr	Thr	Val	Leu	Thr	Lys
				725					730					735	
Asp	Gly	Met	Thr	Arg	Gly	Pro	Val	Val	Arg	Phe	Pro	Thr	Leu	Ile	Arg
			740					745					750		
Ser	Gly	Ala	Cys	Lys	Ile	Trp	Leu	Asp	Ser	Glu	Glu	Gly	Gln	Asn	Ser
		755					760					765			

Ile Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala Arg Leu Gln His
770 775 780

Ile Gln Thr Cys Leu Ala Gly Asp Leu Leu Phe Met Arg Phe Arg Thr
785 790 795 800

Thr Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys Gly Val Glu
805 810 815

Tyr Ser Leu Lys Gln Met Val Glu Glu Tyr Gly Trp Glu Asp Met Glu
820 825 830

Val Val Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala
835 840 845

Ile Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Ala Glu Ala Thr
850 855 860

Ile Pro Gly Asp Val Val Lys Ser Val Leu Lys Ser Asp Val Ser Ala
865 870 875 880

Leu Val Glu Leu Asn Ile Ser Lys Asn Leu Val Gly Ser Ala Met Ala
885 890 895

Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn Leu Val Thr Ala
900 905 910

Leu Phe Leu Ala Leu Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser
915 920 925

Asn Cys Ile Thr Leu Met Lys Glu Val Asp Gly Asp Leu Arg Ile Ser
930 935 940

Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly Gly Gly Thr Val
945 950 955 960

Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly Val Arg Gly Pro
965 970 975

His Pro Thr Glu Pro Gly Ala Asn Ala Arg Gln Leu Ala Arg Ile Ile
980 985 990

Ala Cys Ala Val Leu Ala Gly Glu Leu Ser Leu Cys Ser Ala Leu Ala
995 1000 1005



Ala Gly His Leu Val Gln Ser His Met Thr His Asn Arg Lys Thr
1010 1015 1020

Asn Lys Ala Asn Glu Leu Pro Gln Pro Ser Asn Lys Gly Pro Pro
1025 1030 1035

Cys Lys Thr Ser Ala Leu Leu
1040 1045

<210> 265
<211> 833
<212> PRT
<213> Saccharomyces cerevisiae

<400> 265

Met Ile Thr Leu Leu Leu Tyr Leu Cys Val Ile Cys Asn Ala Ile Val
1 5 10 15

Leu Ile Arg Ala Asp Ser Ile Ala Asp Pro Trp Pro Glu Ala Arg His
20 25 30

Leu Leu Asn Thr Ile Ala Lys Ser Arg Asp Pro Met Lys Glu Ala Ala
35 40 45

Met Glu Pro Asn Ala Asp Glu Phe Val Gly Phe Tyr Val Pro Met Asp
50 55 60

Tyr Ser Pro Arg Asn Glu Glu Lys Asn Tyr Gln Ser Ile Trp Gln Asn
65 70 75 80

Glu Ile Thr Asp Ser Gln Arg His Ile Tyr Glu Leu Leu Val Gln Ser
85 90 95

Ser Glu Gln Phe Asn Asn Ser Glu Ala Thr Tyr Thr Leu Ser Gln Ile
100 105 110

His Leu Trp Ser Gln Tyr Asn Phe Pro His Asn Met Thr Leu Ala His
115 120 125

Lys Tyr Leu Glu Lys Phe Asn Asp Leu Thr His Phe Thr Asn His Ser
130 135 140

Ala Ile Phe Asp Leu Ala Val Met Tyr Ala Thr Gly Gly Cys Ala Ser
145 150 155 160

Gly Asn Asp Gln Thr Val Ile Pro Gln Asp Ser Ala Lys Ala Leu Leu

				165						170						175
Tyr	Tyr	Gln	Arg	Ala	Ala	Gln	Leu	Gly	Asn	Leu	Lys	Ala	Lys	Gln	Val	
			180					185					190			
Leu	Ala	Tyr	Lys	Tyr	Tyr	Ser	Gly	Phe	Asn	Val	Pro	Arg	Asn	Phe	His	
		195					200					205				
Lys	Ser	Leu	Val	Leu	Tyr	Arg	Asp	Ile	Ala	Glu	Gln	Leu	Arg	Lys	Ser	
	210					215					220					
Tyr	Ser	Arg	Asp	Glu	Trp	Asp	Ile	Val	Phe	Pro	Tyr	Trp	Glu	Ser	Tyr	
225					230					235					240	
Asn	Val	Arg	Ile	Ser	Asp	Phe	Glu	Ser	Gly	Leu	Leu	Gly	Lys	Gly	Leu	
				245					250					255		
Asn	Ser	Val	Pro	Ser	Ser	Thr	Val	Arg	Lys	Arg	Thr	Thr	Arg	Pro	Asp	
			260					265					270			
Ile	Gly	Ser	Pro	Phe	Ile	Ala	Gln	Val	Asn	Gly	Val	Gln	Met	Thr	Leu	
		275					280					285				
Gln	Ile	Glu	Pro	Met	Gly	Arg	Phe	Ala	Phe	Asn	Gly	Asn	Asp	Gly	Asn	
	290					295					300					
Ile	Asn	Gly	Asp	Glu	Asp	Asp	Glu	Asp	Ala	Ser	Glu	Arg	Arg	Ile	Ile	
305					310					315					320	
Arg	Ile	Tyr	Tyr	Ala	Ala	Leu	Asn	Asp	Tyr	Lys	Gly	Thr	Tyr	Ser	Gln	
				325					330					335		
Ser	Arg	Asn	Cys	Glu	Arg	Ala	Lys	Asn	Leu	Leu	Glu	Leu	Thr	Tyr	Lys	
			340					345					350			
Glu	Phe	Gln	Pro	His	Val	Asp	Asn	Leu	Asp	Pro	Leu	Gln	Val	Phe	Tyr	
		355					360					365				
Tyr	Val	Arg	Cys	Leu	Gln	Leu	Leu	Gly	His	Met	Tyr	Phe	Thr	Gly	Glu	
	370					375					380					
Gly	Ser	Ser	Lys	Pro	Asn	Ile	His	Met	Ala	Glu	Glu	Ile	Leu	Thr	Thr	
385					390					395					400	
Ser	Leu	Glu	Ile	Ser	Arg	Arg	Ala	Gln	Gly	Pro	Ile	Gly	Arg	Ala	Cys	
				405					410					415		

Ile Asp Leu Gly Leu Ile Asn Gln Tyr Ile Thr Asn Asn Ile Ser Gln
420 425 430

Ala Ile Ser Tyr Tyr Met Lys Ala Met Lys Thr Gln Ala Asn Asn Gly
435 440 445

Ile Val Glu Phe Gln Leu Ser Lys Leu Ala Thr Ser Phe Pro Glu Glu
450 455 460

Lys Ile Gly Asp Pro Phe Asn Leu Met Glu Thr Ala Tyr Leu Asn Gly
465 470 475 480

Phe Ile Pro Ala Ile Tyr Glu Phe Ala Val Met Ile Glu Ser Gly Met
485 490 495

Asn Ser Lys Ser Ser Val Glu Asn Thr Ala Tyr Leu Phe Lys Thr Phe
500 505 510

Val Asp Lys Asn Glu Ala Ile Met Ala Pro Lys Leu Arg Thr Ala Phe
515 520 525

Ala Ala Leu Ile Asn Asp Arg Ser Glu Val Ala Leu Trp Ala Tyr Ser
530 535 540

Gln Leu Ala Glu Gln Gly Tyr Glu Thr Ala Gln Val Ser Ala Ala Tyr
545 550 555 560

Leu Met Tyr Gln Leu Pro Tyr Glu Phe Glu Asp Pro Pro Arg Thr Thr
565 570 575

Asp Gln Arg Lys Thr Leu Ala Ile Ser Tyr Tyr Thr Arg Ala Phe Lys
580 585 590

Gln Gly Asn Ile Asp Ala Gly Val Val Ala Gly Asp Ile Tyr Phe Gln
595 600 605

Met Gln Asn Tyr Ser Lys Ala Met Ala Leu Tyr Gln Gly Ala Ala Leu
610 615 620

Lys Tyr Ser Ile Gln Ala Ile Trp Asn Leu Gly Tyr Met His Glu His
625 630 635 640

Gly Leu Gly Val Asn Arg Asp Phe His Leu Ala Lys Arg Tyr Tyr Asp
645 650 655

Gln Val Ser Glu His Asp His Arg Phe Tyr Leu Ala Ser Lys Leu Ser
660 665 670

Val Leu Lys Leu His Leu Lys Ser Trp Leu Thr Trp Ile Thr Arg Glu
675 680 685

Lys Val Asn Tyr Trp Lys Pro Ser Ser Pro Leu Asn Pro Asn Glu Asp
690 695 700

Thr Gln His Ser Lys Thr Ser Trp Tyr Lys Gln Leu Thr Lys Ile Leu
705 710 715 720

Gln Arg Met Arg His Lys Glu Asp Ser Asp Lys Ala Ala Glu Asp Ser
725 730 735

His Lys His Arg Thr Val Val Gln Asn Gly Ala Asn His Arg Gly Asp
740 745 750

Asp Gln Glu Glu Ala Ser Glu Ile Leu Gly Phe Gln Met Glu Asp Leu
755 760 765

Val Thr Met Gly Cys Ile Leu Gly Ile Phe Leu Leu Ser Ile Leu Met
770 775 780

Ser Thr Leu Ala Ala Arg Arg Gly Trp Asn Val Arg Phe Asn Gly Ala
785 790 795 800

Gln Leu Asn Ala Asn Gly Asn Arg Gln Gln Glu Gln Gln Gln Gln
805 810 815

Gln Ala Gln Gly Pro Pro Gly Trp Asp Phe Asn Val Gln Ile Phe Ala
820 825 830

Ile

<210> 266
<211> 887
<212> PRT
<213> Mesocricetus auratus

<400> 266

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met

20					25					30					
Ser	Met	Asn	Met	Phe	Thr	Gly	Asn	Asn	Lys	Ile	Cys	Gly	Trp	Asn	Tyr
		35					40					45			
Glu	Cys	Pro	Lys	Phe	Glu	Glu	Asp	Val	Leu	Ser	Ser	Asp	Ile	Ile	Ile
	50					55					60				
Leu	Thr	Ile	Thr	Arg	Cys	Ile	Ala	Ile	Leu	Tyr	Ile	Tyr	Phe	Gln	Phe
65					70					75					80
Gln	Asn	Leu	Arg	Gln	Leu	Gly	Ser	Lys	Tyr	Ile	Leu	Gly	Ile	Ala	Gly
				85					90					95	
Leu	Phe	Thr	Ile	Phe	Ser	Ser	Phe	Val	Phe	Ser	Thr	Val	Val	Ile	His
			100					105					110		
Phe	Leu	Asp	Lys	Glu	Leu	Thr	Gly	Leu	Asn	Glu	Ala	Leu	Pro	Phe	Phe
		115					120					125			
Leu	Leu	Leu	Ile	Asp	Leu	Ser	Arg	Ala	Ser	Ala	Leu	Ala	Lys	Phe	Ala
	130					135					140				
Leu	Ser	Ser	Asn	Ser	Gln	Asp	Glu	Val	Arg	Glu	Asn	Ile	Ala	Arg	Gly
145					150					155					160
Met	Ala	Ile	Leu	Gly	Pro	Thr	Phe	Thr	Leu	Asp	Ala	Leu	Val	Glu	Cys
				165					170					175	
Leu	Val	Ile	Gly	Val	Gly	Thr	Met	Ser	Gly	Val	Arg	Gln	Leu	Glu	Ile
			180					185					190		
Met	Cys	Cys	Phe	Gly	Cys	Met	Ser	Val	Leu	Ala	Asn	Tyr	Phe	Val	Phe
		195					200					205			
Met	Thr	Phe	Phe	Pro	Ala	Cys	Val	Ser	Leu	Val	Leu	Glu	Leu	Ser	Arg
	210					215					220				
Glu	Ser	Arg	Glu	Gly	Arg	Pro	Ile	Trp	Gln	Leu	Ser	His	Phe	Ala	Arg
225					230					235					240
Val	Leu	Glu	Glu	Glu	Glu	Asn	Lys	Pro	Asn	Pro	Val	Thr	Gln	Arg	Val
				245					250					255	
Lys	Met	Ile	Met	Ser	Leu	Gly	Leu	Val	Leu	Val	His	Ala	His	Ser	Arg
			260					265					270		

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Thr Glu His Ser Lys
275 280 285

Val Ser Leu Gly Leu Asp Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
290 295 300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
305 310 315 320

Glu Gln Val Val Thr Leu Ser Leu Ala Phe Leu Leu Ala Val Lys Tyr
325 330 335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
340 345 350

Pro Ile Thr Ser Pro Val Val Thr Pro Lys Lys Ala Pro Asp Asn Cys
355 360 365

Cys Arg Arg Glu Pro Leu Leu Val Arg Arg Ser Glu Lys Leu Ser Ser
370 375 380

Val Glu Glu Glu Pro Gly Val Ser Gln Asp Arg Lys Val Glu Val Ile
385 390 395 400

Lys Pro Leu Val Val Glu Thr Glu Ser Ala Ser Arg Ala Thr Phe Val
405 410 415

Leu Gly Ala Ser Gly Thr Ser Pro Pro Val Ala Ala Arg Thr Gln Glu
420 425 430

Leu Glu Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
435 440 445

Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
450 455 460

Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu
465 470 475 480

Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg Gln
485 490 495

Leu Leu Ser Thr Lys Leu Pro Glu Pro Ser Ser Leu Gln Tyr Leu Pro
500 505 510

Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn
515 520 525

Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Cys
530 535 540

Leu Asp Gly Lys Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys
545 550 555 560

Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly Gly
565 570 575

Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val
580 585 590

Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp Leu
595 600 605

Glu Thr Pro Glu Gly Phe Ala Val Ile Lys Asp Ala Phe Asp Ser Thr
610 615 620

Ser Arg Phe Ala Arg Leu Gln Lys Leu His Val Thr Met Ala Gly Arg
625 630 635 640

Asn Leu Tyr Ile Arg Phe Gln Ser Lys Thr Gly Asp Ala Met Gly Met
645 650 655

Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Leu Lys Leu Gln Glu
660 665 670

Phe Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr
675 680 685

Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Thr
690 695 700

Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val Leu
705 710 715 720

Lys Thr Thr Thr Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn Leu
725 730 735

Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala
740 745 750

Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala
755 760 765

Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly
770 775 780

Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu
785 790 795 800

Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys
805 810 815

Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu
820 825 830

Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly
835 840 845

Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser
850 855 860

His Met Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly
865 870 875 880

Thr Cys Thr Lys Lys Ser Ala
885

<210> 267
<211> 1176
<212> PRT
<213> Phycomyces blakesleeianus

<400> 267

Met Ser Leu Pro Asn His Ser Gly Ser Ser Ala Phe Lys Ser Phe Ser
1 5 10 15

Tyr Ile Val Gly Thr Gly Ile Lys Arg Ala Ala Lys Leu Ser Thr Arg
20 25 30

Asn Pro Ile Glu Met Ile Val Val Val Leu Ile Leu Ser Ser Phe Ser
35 40 45

Tyr Phe Tyr Leu Phe Asn Leu Ala Arg Thr Ser Asp Ile Phe Ser Gly
50 55 60

Thr Val Thr Arg Leu Tyr Pro Thr Ser Val Tyr Ala Pro Thr Lys Asp
65 70 75 80

His Ser Phe Ser Val Val Asp Arg Thr Ala Asp Ser Thr Ile Ala Asn
85 90 95

Asn Ala Val Lys Val His Leu His Gln Ile Val Val Ser Asp Pro Lys
100 105 110

His Gly Val Leu Ser Arg Gln Thr Leu Ala Ser Val Leu Arg Phe Gln
115 120 125

Gln Met Ala Glu Asn Glu Ile Tyr Val Pro Asp Ser Thr Ala Val Asn
130 135 140

Arg Phe Ala Phe Asn Lys Asp Leu Cys Tyr Lys Thr Thr Leu Pro Ser
145 150 155 160

Ser Tyr Ser Ser His Ser Ser Asp Ser Asn Ser Asn Ser Asn Leu Asn
165 170 175

Ser Lys Thr Ser Pro Cys Phe Ala His Ser Pro Ala Asp Ile Trp Gln
180 185 190

Asp Glu Ala Thr Leu Leu Ala Asp Lys Asn Ile Arg Ser Thr Ile Glu
195 200 205

Ala Asn Leu Asp Thr Ala Lys Asn Val Phe Gly Asp Leu Gln Leu Asn
210 215 220

Ala Thr Tyr Ala Ser Ser Val Thr Leu Ser Tyr Ala Phe Asn Thr Thr
225 230 235 240

Gly Asp Tyr Arg Glu His Leu Ala Asp Met Trp Lys His Lys Val Ala
245 250 255

Thr Leu Pro Pro Ala Asp Leu Val Ser Leu Ser Asn Ile Gly Gln Gln
260 265 270

Glu Asn Val Phe Ala Trp Leu Phe Ile Val Thr Arg Asn Val Ile Phe
275 280 285

Arg Val Lys Glu Leu Ile Asp Leu Ala Asp Asn Ile Asp Ile Ile Val
290 295 300

Ile Leu Val Gly Tyr Ile Met Met Ile Ala Thr Phe Ile Ser Leu Tyr
305 310 315 320

Val Asn Met Arg Ala Met Gly Ser Arg Tyr Thr Leu Ala Thr Ala Val
325 330 335

Val Phe Asn Gly Phe Phe Ser Phe Met Leu Ala Leu Leu Thr Val Arg
340 345 350

Ala Leu Gly Val Asp Val Tyr Pro Val Val Leu Ala Glu Ala Ile Pro
355 360 365

Phe Leu Ala Val Thr Ile Gly Phe Glu Arg Pro Phe Lys Leu Thr Lys
370 375 380

Arg Val Phe Gln Phe Ser Lys Glu Thr Pro Leu Thr Lys Gln Glu Ile
385 390 395 400

Arg Thr Thr Ile Met Arg Ala Val Asp Thr Val Ala Leu Pro Ile Ala
405 410 415

Arg Asp Cys Phe Met Glu Ile Ile Val Leu Val Leu Gly Ala Lys Ser
420 425 430

Gly Ile Ser Gly Leu Glu Glu Phe Cys Leu Leu Ser Ala Ile Leu Leu
435 440 445

Ala Tyr Asp Phe Ile Ile Met Phe Thr Trp Tyr Thr Ala Val Leu Ala
450 455 460

Leu Lys Leu Glu Leu Leu Arg Ile Arg Glu Ile Asn Gly Ile Ser Ala
465 470 475 480

Asp Asp Ile Lys Lys Gly Thr Lys Lys Ser Thr Gly Tyr Ile Arg Arg
485 490 495

Thr Val Ile Lys Ala Phe Ser Asp Asp His Ala Ala Gly Ala Asn Thr
500 505 510

Ala Asn Gln Lys Ala Asp Gly Pro Ile Ile Gly Arg Val Lys Leu Leu
515 520 525

Met Ile Val Gly Phe Val Val Met His Ile Phe Lys Phe Cys Ser Ala
530 535 540

Phe Gln Ser Val Gly Pro Gln Val Asn Ile Thr Glu Pro Ser Ile Ala
545 550 555 560

Val Val Leu Asp Gln Leu Leu Glu Gln His Lys Ala Ser Ser Gln Ala
565 570 575
Ser Leu Pro Leu Phe Val Gln Val Phe Pro Ala Met Pro Phe His Val
580 585 590
Ala Thr Val Asn Lys Ser Phe Val Pro Asp Ala Ile Thr Arg Pro Leu
595 600 605
Glu Ala Leu Phe Asp Thr Tyr Ala Val Tyr Ile Gln His Pro Val Ile
610 615 620
Ser Lys Trp Leu Thr Ile Ala Leu Phe Val Ser Leu Phe Leu Asn Thr
625 630 635 640
Tyr Leu Phe Asn Val Ala Lys Gln Pro Lys Gln Ile Val Glu Gln Val
645 650 655
Asn Gln Asp Lys Lys Ile Thr Asn Ala Ile Glu Ser Thr Asn Asn Thr
660 665 670
His Ile Glu Val Thr Glu Lys Gln Lys Pro Thr Ile Gln Ser Pro Gly
675 680 685
Pro Val Val Ser Ser Ala Val Val Met Ser Pro Asn His Lys Arg Ser
690 695 700
His Asn His His His Ser His Ser His Ser His Asn His His Ser Asn
705 710 715 720
His His Gln Ser Asp Ile Val Arg Pro Ile Asp Glu Cys Val Ala Leu
725 730 735
Val Arg Thr Pro Glu Met Leu Asn Asp Glu Glu Val Ile Ser Leu Val
740 745 750
Glu Asn Gly Lys Met Ala Ser Tyr Ala Leu Glu Lys Val Leu Gly Asp
755 760 765
Leu Gln Arg Ala Val Gly Ile Arg Arg Ala Leu Ile Ser Arg Ala Ser
770 775 780
Ile Thr Lys Thr Leu Glu Ala Ser Ala Leu Pro Leu Glu Asn Tyr His
785 790 795 800
Tyr Asp Lys Val Met Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met

Glu Ser Ser Asn Cys Ile Thr Leu Met Lys Ala Val Asn Asp Thr
 1055 1060 1065

Lys Asp Leu His Ile Ser Cys Thr Met Pro Ser Ile Glu Val Gly
 1070 1075 1080

Thr Ile Gly Gly Gly Thr Ile Leu Pro Pro Gln Gln Ser Met Leu
 1085 1090 1095

Asp Met Leu Gly Val Arg Gly Pro His Pro Thr Glu Pro Gly Lys
 1100 1105 1110

Asn Ala Gln Arg Leu Ala Arg Ile Ile Cys Ala Ala Val Met Ala
 1115 1120 1125

Gly Glu Leu Ser Leu Cys Ala Ala Leu Ala Ala Gly His Leu Val
 1130 1135 1140

Lys Ala His Met Ala His Asn Arg Gly Thr Gln Ala Pro Thr Ile
 1145 1150 1155

Thr Ser Gly Pro Ala Pro Ser Thr Gly Thr Glu Pro Gly Thr Cys
 1160 1165 1170

Ile Lys Ser
 1175

<210> 268
 <211> 888
 <212> PRT
 <213> HUMAN

<400> 268

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
 1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
 20 25 30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
 35 40 45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
 50 55 60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65 70 75 80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
85 90 95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
100 105 110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
115 120 125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Thr Leu Ala Lys Phe Ala
130 135 140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
145 150 155 160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
165 170 175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
180 185 190

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
195 200 205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
210 215 220

Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
225 230 235 240

Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
245 250 255

Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
260 265 270

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Ala Asp Thr Ser Lys
275 280 285

Val Ser Leu Gly Leu Asp Glu Asn Val Ser Lys Arg Ile Glu Pro Ser
290 295 300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile

305		310		315		320
Glu Gln Val Ile Thr Leu Ser Leu Ala Leu Leu Leu Ala Val Lys Tyr						
		325		330		335
Ile Phe Phe Glu Gln Thr Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn						
		340		345		350
Pro Ile Thr Ser Pro Val Val Thr Gln Lys Lys Val Pro Asp Asn Cys						
		355		360		365
Cys Arg Arg Glu Pro Met Leu Val Arg Asn Asn Gln Lys Cys Asp Ser						
		370		375		380
Val Glu Glu Glu Thr Gly Ile Asn Arg Glu Arg Lys Val Glu Val Ile						
		385		390		395
Lys Pro Leu Val Ala Glu Thr Asp Thr Pro Asn Arg Ala Thr Phe Val						
		405		410		415
Val Gly Asn Ser Ser Leu Leu Asp Thr Ser Ser Val Leu Val Thr Gln						
		420		425		430
Glu Pro Glu Ile Glu Leu Pro Arg Glu Pro Arg Pro Asn Glu Glu Cys						
		435		440		445
Leu Gln Ile Leu Gly Asn Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp						
		450		455		460
Ala Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys						
		465		470		475
Leu Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg						
		485		490		495
Gln Leu Leu Ser Lys Lys Leu Ser Glu Pro Ser Ser Leu Gln Tyr Leu						
		500		505		510
Pro Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu						
		515		520		525
Asn Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu						
		530		535		540
Cys Leu Asp Glu Lys Glu Phe Gln Val Pro Met Ala Thr Thr Glu Gly						
		545		550		555
						560

Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly
565 570 575

Gly Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro
580 585 590

Val Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp
595 600 605

Leu Glu Thr Ser Glu Gly Phe Ala Val Ile Lys Glu Ala Phe Asp Ser
610 615 620

Thr Ser Arg Phe Ala Arg Leu Gln Lys Leu His Thr Ser Ile Ala Gly
625 630 635 640

Arg Asn Leu Tyr Ile Arg Phe Gln Ser Arg Ser Gly Asp Ala Met Gly
645 650 655

Met Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Ser Lys Leu His
660 665 670

Glu Tyr Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys
675 680 685

Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys
690 695 700

Ser Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val
705 710 715 720

Leu Lys Thr Thr Thr Glu Ala Met Ile Glu Val Asn Ile Asn Lys Asn
725 730 735

Leu Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His
740 745 750

Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala
755 760 765

Ala Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser
770 775 780

Gly Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile
785 790 795 800

Glu Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala
805 810 815

Cys Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly
820 825 830

Glu Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala
835 840 845

Gly Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Lys
850 855 860

Ser His Met Ile His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln
865 870 875 880

Gly Ala Cys Thr Lys Lys Thr Ala
885

<210> 269
<211> 888
<212> PRT
<213> Human

<400> 269

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
20 25 30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
35 40 45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
50 55 60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65 70 75 80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
85 90 95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
100 105 110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe

115	120	125
Leu 130	Leu 135	Leu 140
Leu 145	Leu 150	Leu 155
Met 165	Met 170	Met 175
Leu 180	Leu 185	Leu 190
Met 195	Met 200	Met 205
Met 210	Met 215	Met 220
Glu 225	Glu 230	Glu 235
Val 245	Val 250	Val 255
Lys 260	Lys 265	Lys 270
Trp 275	Trp 280	Trp 285
Val 290	Val 295	Val 300
Val 305	Val 310	Val 315
Glu 325	Glu 330	Glu 335
Ile 340	Ile 345	Ile 350
Pro 355	Pro 360	Pro 365

Cys Arg Arg Glu Pro Met Leu Val Arg Asn Asn Gln Lys Cys Asp Ser
 370 375 380

Val Glu Glu Glu Thr Gly Ile Asn Arg Glu Arg Lys Val Glu Val Ile
 385 390 395 400

Lys Pro Leu Val Ala Glu Thr Asp Thr Pro Asn Arg Ala Thr Phe Val
 405 410 415

Val Gly Asn Ser Ser Leu Leu Asp Thr Ser Ser Val Leu Val Thr Gln
 420 425 430

Glu Pro Glu Ile Glu Leu Pro Arg Glu Pro Arg Pro Asn Glu Glu Cys
 435 440 445

Leu Gln Ile Leu Gly Asn Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp
 450 455 460

Ala Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys
 465 470 475 480

Leu Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg
 485 490 495

Gln Leu Leu Ser Lys Lys Leu Ser Glu Pro Ser Ser Leu Gln Tyr Leu
 500 505 510

Pro Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu
 515 520 525

Asn Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu
 530 535 540

Cys Leu Asp Glu Lys Glu Phe Gln Val Pro Met Ala Thr Thr Glu Gly
 545 550 555 560

Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly
 565 570 575

Gly Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro
 580 585 590

Val Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp
 595 600 605

Leu Glu Thr Ser Glu Gly Phe Ala Val Ile Lys Glu Ala Phe Asp Ser
610 615 620

Thr Ser Arg Phe Ala Arg Leu Gln Lys Leu His Thr Ser Ile Ala Gly
625 630 635 640

Arg Asn Leu Tyr Ile Arg Phe Gln Ser Arg Ser Gly Asp Ala Met Gly
645 650 655

Met Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Ser Lys Leu His
660 665 670

Glu Tyr Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys
675 680 685

Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys
690 695 700

Ser Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val
705 710 715 720

Leu Lys Thr Thr Thr Glu Ala Met Ile Glu Val Asn Ile Asn Lys Asn
725 730 735

Leu Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His
740 745 750

Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala
755 760 765

Ala Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser
770 775 780

Gly Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile
785 790 795 800

Glu Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala
805 810 815

Cys Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly
820 825 830

Glu Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala
835 840 845

Gly Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Lys
850 855 860

Ser His Met Ile His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln
865 870 875 880

Gly Ala Cys Thr Lys Lys Thr Ala
885

<210> 270
<211> 424
<212> PRT
<213> Streptococcus pneumoniae

<400> 270

Met Lys Ile Ser Trp Asn Gly Phe Ser Lys Lys Ser Tyr Gln Glu Arg
1 5 10 15

Leu Glu Leu Leu Lys Ala Gln Ala Leu Leu Ser Pro Glu Arg Gln Ala
20 25 30

Ser Leu Glu Lys Asp Glu Gln Met Ser Val Thr Val Ala Asp Gln Leu
35 40 45

Ser Glu Asn Val Val Gly Thr Phe Ser Leu Pro Tyr Ser Leu Val Pro
50 55 60

Glu Val Leu Val Asn Gly Gln Gly Tyr Thr Val Pro Tyr Val Thr Glu
65 70 75 80

Glu Pro Ser Val Val Ala Ala Ala Ser Tyr Ala Ser Lys Ile Ile Lys
85 90 95

Arg Ala Gly Gly Phe Thr Ala Gln Val His Gln Arg Gln Met Ile Gly
100 105 110

Gln Val Ala Leu Tyr Gln Val Ala Asn Pro Lys Leu Ala Gln Glu Lys
115 120 125

Ile Ala Ser Lys Lys Ala Glu Leu Leu Glu Leu Ala Asn Gln Ala Tyr
130 135 140

Pro Ser Ile Val Lys Arg Gly Gly Gly Ala Arg Asp Leu His Val Glu
145 150 155 160

Gln Ile Lys Gly Glu Pro Asp Phe Leu Val Val Tyr Ile His Val Asp
165 170 175

Thr Gln Glu Ala Met Gly Ala Asn Met Leu Asn Thr Met Leu Glu Ala
180 185 190

Leu Lys Pro Val Leu Glu Glu Leu Ser Gln Gly Gln Ser Leu Met Gly
195 200 205

Ile Leu Ser Asn Tyr Ala Thr Asp Ser Leu Val Thr Ala Ser Cys Arg
210 215 220

Ile Ala Phe Arg Tyr Leu Ser Arg Gln Lys Asp Gln Gly Arg Glu Ile
225 230 235 240

Ala Glu Lys Ile Ala Leu Ala Ser Gln Phe Ala Gln Ala Asp Pro Tyr
245 250 255

Arg Ala Ala Thr His Asn Lys Gly Ile Phe Asn Gly Ile Asp Ala Ile
260 265 270

Leu Ile Ala Thr Gly Asn Asp Trp Arg Ala Ile Glu Ala Gly Ala His
275 280 285

Ala Phe Ala Ser Arg Asp Gly Arg Tyr Gln Gly Leu Ser Cys Trp Thr
290 295 300

Leu Asp Leu Glu Arg Glu Glu Leu Val Gly Glu Met Thr Leu Pro Met
305 310 315 320

Pro Val Ala Thr Lys Gly Gly Ser Ile Gly Leu Asn Pro Arg Val Ala
325 330 335

Leu Ser His Asp Leu Leu Gly Asn Pro Ser Ala Arg Glu Leu Ala Gln
340 345 350

Ile Ile Val Ser Ile Gly Leu Ala Gln Asn Phe Ala Ala Leu Lys Ala
355 360 365

Leu Val Ser Thr Gly Ile Gln Gln Gly His Met Lys Leu Gln Ala Lys
370 375 380

Ser Leu Ala Leu Leu Ala Gly Ala Ser Glu Ser Glu Val Ala Pro Leu
385 390 395 400

Val Glu Arg Leu Ile Ser Asp Lys Thr Phe Asn Leu Glu Thr Ala Gln
405 410 415

Arg Tyr Leu Glu Asn Leu Arg Ser
420

<210> 271

<211> 425

<212> PRT

<213> Streptococcus pyogenes

<400> 271

Met Thr Lys Thr Asn Leu Asn Trp Ser Gly Phe Ser Lys Lys Thr Phe
1 5 10 15

Glu Glu Arg Leu Gln Leu Ile Glu Lys Phe Lys Leu Leu Asn Ala Glu
20 25 30

Asn Leu Asn Gln Leu Lys Thr Asp Val Leu Leu Pro Ile Gln Thr Ala
35 40 45

Asn Gln Met Thr Glu Asn Val Leu Gly Arg Leu Ala Leu Pro Phe Ser
50 55 60

Ile Ala Pro Asp Phe Leu Val Asn Gly Ser Thr Tyr Gln Met Pro Phe
65 70 75 80

Val Thr Glu Glu Pro Ser Val Val Ala Ala Ala Ser Phe Ala Ala Lys
85 90 95

Leu Ile Lys Arg Ser Gly Gly Phe Lys Ala Gln Thr Leu Asn Arg Gln
100 105 110

Met Ile Gly Gln Ile Val Leu Tyr Asp Ile Asp Gln Ile Asp Asn Ala
115 120 125

Lys Ala Ala Ile Leu His Lys Thr Lys Lys Leu Ile Ala Leu Ala Asn
130 135 140

Lys Ala Tyr Pro Ser Ile Val Lys Arg Gly Gly Gly Ala Arg Thr Ile
145 150 155 160

His Leu Glu Glu Lys Gly Glu Phe Leu Ile Phe Tyr Leu Thr Val Asp
165 170 175

Thr Gln Glu Ala Met Gly Ala Asn Met Val Asn Thr Met Met Glu Ala
180 185 190

Leu Val Pro Asp Leu Thr Arg Leu Ser Lys Gly His Cys Leu Met Ala

195	200	205
Ile Leu Ser Asn Tyr Ala Thr Glu Ser Leu Val Thr Thr Ser Cys Glu 210 215 220		
Ile Pro Val Arg Leu Leu Asp Arg Asp Lys Thr Lys Ser Leu Gln Leu 225 230 235 240		
Ala Gln Lys Ile Glu Leu Ala Ser Arg Leu Ala Gln Val Asp Pro Tyr 245 250 255		
Arg Ala Thr Thr His Asn Lys Gly Ile Phe Asn Gly Ile Asp Ala Val 260 265 270		
Val Ile Ala Thr Gly Asn Asp Trp Arg Ala Ile Glu Ala Gly Ala His 275 280 285		
Ala Tyr Ala Ser Arg Asn Gly Ser Tyr Gln Gly Leu Ser Gln Trp His 290 295 300		
Phe Asp Gln Asp Lys Gln Val Leu Leu Gly Gln Met Thr Leu Pro Met 305 310 315 320		
Pro Ile Ala Ser Lys Gly Gly Ser Ile Gly Leu Asn Pro Thr Val Ser 325 330 335		
Ile Ala His Asp Leu Leu Asn Gln Pro Asp Ala Lys Thr Leu Ala Gln 340 345 350		
Leu Ile Ala Ser Val Gly Leu Ala Gln Asn Phe Ala Ala Leu Lys Ala 355 360 365		
Leu Thr Ser Ser Gly Ile Gln Ala Gly His Met Lys Leu His Ala Lys 370 375 380		
Ser Leu Ala Leu Leu Ala Gly Ala Thr Gln Asp Glu Ile Ala Pro Leu 385 390 395 400		
Val Asn Ala Leu Leu Ala Asp Lys Pro Ile Asn Leu Glu Lys Ala His 405 410 415		
Phe Tyr Leu Ser Gln Leu Arg Gln Ser 420 425		

<210> 272
<211> 425

<212> PRT

<213> Staphylococcus epidermidis

<400> 272

Met Lys Ser Leu Asp Lys Gly Phe Arg His Leu Thr Arg Lys Asp Lys
1 5 10 15

Leu Lys Lys Leu Val Glu Tyr Gly Trp Leu Asp Asp Glu Asn Tyr Glu
20 25 30

Ile Leu Leu Asn His Pro Leu Ile Asn Glu Glu Val Ala Asn Ser Leu
35 40 45

Ile Glu Asn Val Ile Gly Gln Gly Ala Leu Pro Val Gly Leu Leu Pro
50 55 60

Arg Ile Ile Val Asp Asp Lys Glu Tyr Val Val Pro Met Met Val Glu
65 70 75 80

Glu Pro Ser Val Val Ala Ala Ala Ser Tyr Gly Ala Lys Leu Val Asn
85 90 95

Gln Ser Gly Gly Phe Lys Thr Ile Ser Ser Glu Arg Leu Met Ile Gly
100 105 110

Gln Ile Val Phe Asp Asp Val Glu Asp Thr Gly Thr Leu Ala Asn Ser
115 120 125

Ile Tyr Gln Ile Glu Ser Gln Ile His Gln Ile Ala Asp Glu Ala Tyr
130 135 140

Pro Ser Ile Lys Ala Arg Gly Gly Gly Tyr Gln Arg Ile Glu Ile Asp
145 150 155 160

Thr Phe Pro Asn His Arg Leu Leu Ser Leu Lys Val Phe Val Asp Thr
165 170 175

Lys Asp Ala Met Gly Ala Asn Met Leu Ile Thr Ile Leu Glu Ala Ile
180 185 190

Thr Ala His Leu Lys Val Lys Ile Phe Asn Gln Asn Val Leu Met Ser
195 200 205

Ile Leu Ser Asn His Ala Thr Ala Ser Val Val Gln Val Gln Gly Glu
210 215 220

Ile Asp Ile Glu Asp Leu His Arg Gly Glu Arg Ser Gly Glu Glu Val
 225 230 235 240

Ala Gln Arg Met Glu Arg Ala Ser Val Leu Ala Gln Val Asp Ile His
 245 250 255

Arg Ala Ala Thr His Asn Lys Gly Val Met Asn Gly Ile His Ala Val
 260 265 270

Val Leu Ala Thr Gly Asn Asp Thr Arg Gly Val Glu Ala Ser Ala His
 275 280 285

Ala Tyr Ala Ser Lys Asp Gly His Tyr Arg Gly Ile Ala Thr Trp Glu
 290 295 300

Tyr Asp Arg Ser Arg Asn Lys Leu Val Gly Thr Ile Glu Val Pro Met
 305 310 315 320

Thr Leu Ala Thr Val Gly Gly Gly Thr Lys Val Leu Pro Ile Ala Lys
 325 330 335

Ala Ser Leu Asn Leu Leu Asn Val Glu Asn Ala Gln Glu Leu Gly Gln
 340 345 350

Val Val Ala Ala Val Gly Leu Ala Gln Asn Phe Ser Ala Cys Arg Ala
 355 360 365

Leu Val Ser Glu Gly Ile Gln Gln Gly His Met Ser Leu Gln Tyr Lys
 370 375 380

Ser Leu Ala Ile Val Val Gly Ala Lys Gly Glu Glu Ile Ala Gln Val
 385 390 395 400

Ala Glu Ala Leu Lys Tyr Glu Ser Gln Ala Asn Thr Ala Lys Ala Gln
 405 410 415

Glu Ile Leu Met Asn Ile Arg Lys Ser
 420 425

<210> 273

<211> 425

<212> PRT

<213> Staphylococcus haemolyticus

<400> 273

Met Lys Ser Leu Asp Lys Thr Phe Arg His Leu Ser Arg Glu Asp Lys
 1 5 10 15

Leu Lys Gln Leu Val Asp Tyr Gly Trp Leu Thr Asp Glu Ser Tyr Asp
20 25 30

Val Leu Leu Lys Asn Pro Leu Ile Asn Glu Glu Val Ala Asn Ser Leu
35 40 45

Ile Glu Asn Val Ile Gly Gln Gly Thr Leu Pro Val Gly Leu Leu Pro
50 55 60

Lys Ile Ile Val Asp Asp Lys Glu Tyr Val Val Pro Met Met Val Glu
65 70 75 80

Glu Pro Ser Val Val Ala Ala Ala Ser Tyr Gly Ala Lys Leu Val Asn
85 90 95

Asn Thr Gly Gly Phe Lys Thr Val Lys Ser Glu Arg Leu Met Ile Gly
100 105 110

Gln Ile Val Phe Asp Asp Val Ser Asp Thr Asp Ala Leu Ala Gln Ala
115 120 125

Ile Tyr Asp Leu Glu Pro Gln Ile Lys Gln Ile Ala Ala Glu Ala Tyr
130 135 140

Pro Ser Ile Ile Glu Arg Gly Gly Gly Tyr Arg Arg Ile Glu Ile Asp
145 150 155 160

Thr Phe Pro Glu Asn Gln Leu Leu Ser Leu Lys Val Phe Val Asp Thr
165 170 175

Lys Asp Ala Met Gly Ala Asn Met Leu Asn Thr Ile Leu Glu Ala Ile
180 185 190

Thr Ala His Met Lys Asn Glu Phe Pro Asn Arg Asp Val Leu Met Ser
195 200 205

Ile Leu Ser Asn His Ala Thr Ala Ser Val Val Arg Val Gln Gly Glu
210 215 220

Ile Asp Ile Lys Asp Leu Asn Lys Gly Asp Arg Ser Gly Glu Glu Val
225 230 235 240

Ala Gln Arg Met Glu Arg Ala Ser Val Leu Ala Gln Val Asp Ile His
245 250 255

Arg Ala Ala Thr His Asn Lys Gly Val Met Asn Gly Ile His Ala Val
 260 265 270

Val Leu Ala Thr Gly Asn Asp Thr Arg Gly Ala Glu Ala Ser Ala His
 275 280 285

Ala Tyr Ala Ser Arg Asp Gly Gln Tyr Arg Gly Ile Ala Thr Trp Lys
 290 295 300

Phe Asp Lys Glu Arg Gly Arg Leu Val Gly Thr Ile Glu Val Pro Met
 305 310 315 320

Thr Leu Ala Ile Val Gly Gly Gly Thr Lys Val Leu Pro Ile Ala Lys
 325 330 335

Ala Ser Leu Glu Leu Leu Asn Val Gln Ser Ala Gln Glu Leu Gly Gln
 340 345 350

Val Val Ala Ala Val Gly Leu Ala Gln Asn Phe Ser Ala Cys Arg Ala
 355 360 365

Leu Val Ser Glu Gly Ile Gln Lys Gly His Met Ser Leu Gln Tyr Lys
 370 375 380

Ser Leu Ala Ile Val Val Gly Ala Gln Gly Asp Glu Ile Ala Arg Val
 385 390 395 400

Ala Glu Ala Leu Lys Ala Ala Pro Lys Ala Asn Thr Ala Thr Ala Gln
 405 410 415

Gln Ile Leu Lys Asp Leu Arg Gln Gln
 420 425

<210> 274
 <211> 425
 <212> PRT
 <213> Staphylococcus aureus

<400> 274

Met Gln Ser Leu Asp Lys Asn Phe Arg His Leu Ser Arg Gln Gln Lys
 1 5 10 15

Leu Gln Gln Leu Val Asp Lys Gln Trp Leu Ser Glu Asp Gln Phe Asp
 20 25 30

Ile Leu Leu Asn His Pro Leu Ile Asp Glu Glu Val Ala Asn Ser Leu

35					40					45					
Ile	Glu	Asn	Val	Ile	Ala	Gln	Gly	Ala	Leu	Pro	Val	Gly	Leu	Leu	Pro
50						55					60				
Asn	Ile	Ile	Val	Asp	Asp	Lys	Ala	Tyr	Val	Val	Pro	Met	Met	Val	Glu
65					70					75					80
Glu	Pro	Ser	Val	Val	Ala	Ala	Ala	Ser	Tyr	Gly	Ala	Lys	Leu	Val	Asn
				85					90					95	
Gln	Thr	Gly	Gly	Phe	Lys	Thr	Val	Ser	Ser	Glu	Arg	Ile	Met	Ile	Gly
			100					105					110		
Gln	Ile	Val	Phe	Asp	Gly	Val	Asp	Asp	Thr	Glu	Lys	Leu	Ser	Ala	Asp
		115					120					125			
Ile	Lys	Ala	Leu	Glu	Lys	Gln	Ile	His	Lys	Ile	Ala	Asp	Glu	Ala	Tyr
	130					135					140				
Pro	Ser	Ile	Lys	Ala	Arg	Gly	Gly	Gly	Tyr	Gln	Arg	Ile	Ala	Ile	Asp
145					150					155					160
Thr	Phe	Pro	Glu	Gln	Gln	Leu	Leu	Ser	Leu	Lys	Val	Phe	Val	Asp	Thr
				165					170					175	
Lys	Asp	Ala	Met	Gly	Ala	Asn	Met	Leu	Asn	Thr	Ile	Leu	Glu	Ala	Ile
			180					185					190		
Thr	Ala	Phe	Leu	Lys	Asn	Glu	Ser	Pro	Gln	Ser	Asp	Ile	Leu	Met	Ser
		195					200					205			
Ile	Leu	Ser	Asn	His	Ala	Thr	Ala	Ser	Val	Val	Lys	Val	Gln	Gly	Glu
	210					215					220				
Ile	Asp	Val	Lys	Asp	Leu	Ala	Arg	Gly	Glu	Arg	Thr	Gly	Glu	Glu	Val
225					230					235					240
Ala	Lys	Arg	Met	Glu	Arg	Ala	Ser	Val	Leu	Ala	Gln	Val	Asp	Ile	His
				245					250					255	
Arg	Ala	Ala	Thr	His	Asn	Lys	Gly	Val	Met	Asn	Gly	Ile	His	Ala	Val
			260					265					270		
Val	Leu	Ala	Thr	Gly	Asn	Asp	Thr	Arg	Gly	Ala	Glu	Ala	Ser	Ala	His
		275					280					285			

Ala Tyr Ala Ser Arg Asp Gly Gln Tyr Arg Gly Ile Ala Thr Trp Arg
 290 295 300

Tyr Asp Gln Lys Arg Gln Arg Leu Ile Gly Thr Ile Glu Val Pro Met
 305 310 315 320

Thr Leu Ala Ile Val Gly Gly Gly Thr Lys Val Leu Pro Ile Ala Lys
 325 330 335

Ala Ser Leu Glu Leu Leu Asn Val Asp Ser Ala Gln Glu Leu Gly His
 340 345 350

Val Val Ala Ala Val Gly Leu Ala Gln Asn Phe Ala Ala Cys Arg Ala
 355 360 365

Leu Val Ser Glu Gly Ile Gln Gln Gly His Met Ser Leu Gln Tyr Lys
 370 375 380

Ser Leu Ala Ile Val Val Gly Ala Lys Gly Asp Glu Ile Ala Gln Val
 385 390 395 400

Ala Glu Ala Leu Lys Gln Glu Pro Arg Ala Asn Thr Gln Val Ala Glu
 405 410 415

Arg Ile Leu Gln Glu Ile Arg Gln Gln
 420 425

<210> 275
 <211> 866
 <212> PRT
 <213> Ips paraconfusus

<400> 275

Met Val Ser Arg Leu Phe Leu Ala His Gly Glu Phe Cys Thr Asn His
 1 5 10 15

Pro Trp Glu Val Ile Val Ala Thr Leu Thr Leu Thr Ala Cys Met Leu
 20 25 30

Thr Val Glu Arg Gln Asn Pro Ile Pro Pro Thr Lys Pro Ile Thr Thr
 35 40 45

Ser Cys Gln Gly Cys Ile Gln Glu Ala Glu Tyr Asn Ala Ala Asp Leu
 50 55 60

Ile Ser Met Thr Ile Leu Arg Ser Leu Ala Val Leu Tyr Cys Tyr Tyr
 65 70 75 80
 Gln Phe Arg Lys Leu His Lys Leu Gly Ser Arg Tyr Ile Leu Gly Ile
 85 90 95
 Ala Glu Leu Phe Thr Val Phe Ser Ser Phe Ile Phe Thr Thr Thr Val
 100 105 110
 Leu Asn Leu Leu Arg Val Glu Val Ser Asp Leu Lys Asp Ala Leu Phe
 115 120 125
 Phe Phe Leu Leu Leu Ile Asp Leu Ser Lys Ala Gly Met Leu Ala Gln
 130 135 140
 Phe Ala Leu Thr Ser Gln Asn Glu Ile Glu Gly Lys Asn Asn Ile Ala
 145 150 155 160
 Lys Gly Leu Ala Glu Leu Gly Pro Thr Ile Thr Leu Asp Thr Val Val
 165 170 175
 Glu Thr Leu Val Ile Gly Val Gly Thr Leu Ser Gly Val Glu Arg Leu
 180 185 190
 Glu Met Leu Ser Trp Phe Ala Cys Leu Ser Val Leu Val Asn Tyr Val
 195 200 205
 Val Phe Met Ala Phe Tyr Pro Ala Cys Leu Ser Leu Ile Leu Glu Leu
 210 215 220
 Ser Arg Ser Thr Asn Phe Tyr Lys Thr Lys Asp Pro Trp Met Ile Phe
 225 230 235 240
 Ala Phe Lys Glu Glu Glu His Lys Ser Asn Pro Val Val Gln Arg Val
 245 250 255
 Lys Leu Ile Met Ser Val Gly Leu Met Ile Val His Val His Ser Arg
 260 265 270
 Trp Pro Phe Lys Asp Ser Glu Val Tyr Asn Ile Glu Pro Leu Val Gln
 275 280 285
 Gln Ser Phe Asn Asn Thr Glu Glu Ser Asn Ser Leu His Gly Tyr Phe
 290 295 300
 Glu Arg Trp Leu Ala Leu Gly Ala Asp His Ile Val Ile Leu Ile Leu

305		310		315		320
Ile Thr Ala Leu Leu Ile Lys Leu Leu Phe Phe Glu Ile Gln Asp Leu	325		330		335	
Thr Glu Ile Arg Asp Gln Glu Thr Gln Val Glu Pro Glu Lys Ser Glu	340		345		350	
Lys Ala Glu Asn Thr Glu Lys Glu Glu Leu Lys Val Val Gln Glu Val	355		360		365	
Arg Glu Asn Lys Arg Met Pro Met Phe Ser Leu Ser Glu Asp Asp Ser	370		375		380	
Cys Glu Thr Thr Phe Gln Asp Lys Glu Val Gln Thr Gln Thr Pro Tyr	385		390		395	400
Asn Ser Glu Ala His Ser Ser Ser Glu Asp Asp Ile Pro Lys Val Cys	405		410		415	
Lys Thr Leu Glu Asp Cys Leu Lys Ile Tyr Asn Asn Val Asp Met Gly	420		425		430	
Ala Thr Ala Leu Thr Asp Glu Glu Ile Ile Leu Leu Ile Lys Asn Arg	435		440		445	
His Ile Ala Gly Tyr Gln Ile Glu Lys Ala Val Asp Asn Pro Glu Arg	450		455		460	
Gly Val Gly Ile Arg Arg Lys Ile Leu Gly Arg Asp Leu Asp Ala Pro	465		470		475	480
Lys Val Leu Glu Gly Leu Pro Tyr Arg Asn Tyr Asp Tyr Ser Leu Val	485		490		495	
Met Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro Val	500		505		510	
Gly Tyr Ala Gly Pro Leu Val Leu Asp Gly Lys Glu Ile Tyr Val Pro	515		520		525	
Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys	530		535		540	
Arg Ala Leu Lys Glu Ala Gly Val Thr Ser Arg Ile Val Ala Asp Gly	545		550		555	560

Met Thr Arg Gly Pro Val Val Arg Phe Pro Ser Ile Ile Arg Ala Ser
 565 570 575

Gln Ala Met Gln Trp Ile Gln Asp Asn Phe Asp Gly Ile Lys Glu Gln
 580 585 590

Phe Asp Ser Ser Ser Arg Phe Ala Arg Leu Gln Arg Val Thr Met Lys
 595 600 605

Ile Ala Gly Arg Leu Leu Phe Ile Arg Phe Val Ala Thr Thr Gly Asp
 610 615 620

Ala Met Gly Met Asn Met Leu Ser Lys Gly Thr Glu Tyr Ser Leu Lys
 625 630 635 640

Phe Val Gln Arg Ala Phe Glu Asp Met Glu Ile Leu Ser Leu Ser Gly
 645 650 655

Asn Phe Cys Thr Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly
 660 665 670

Arg Gly Lys Ser Val Val Cys Glu Ala Ile Val Pro Ala Lys Ile Val
 675 680 685

Ala Asn Ile Leu Lys Thr Asn Val His Ala Leu Val Asp Val Asn Asn
 690 695 700

Ser Lys Asn Met Val Gly Ser Ala Val Ala Gly Ser Ile Gly Gly Phe
 705 710 715 720

Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile Phe Leu Ala Thr Gly
 725 730 735

Gln Asp Pro Ala Gln Asn Val Gly Ser Ser Asn Cys Met Thr Leu Met
 740 745 750

Glu Pro Trp Gly Pro Thr Gly Glu Asp Leu Tyr Ile Ser Cys Thr Met
 755 760 765

Pro Ser Ile Glu Ile Gly Thr Ile Gly Gly Gly Thr Ile Leu Pro Pro
 770 775 780

Gln Gly Thr Cys Leu Glu Met Leu Gly Val Arg Gly Ser Asn Ile Ala
 785 790 795 800

Glu Pro Gly Ala Asn Ala Ser Gln Leu Ala Lys Ile Val Gly Ala Thr
805 810 815

Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Leu Ala Ala Gly His
820 825 830

Leu Val Arg Ser His Leu Arg His Asn Arg Ser Thr Thr Leu Leu Pro
835 840 845

Asp Ala Phe Asp Lys Asn Lys Asn Ile Leu Val Pro Pro Cys Lys Asp
850 855 860

Lys Val
865

<210> 276
<211> 353
<212> PRT
<213> Kitasatospora griseola

<400> 276

Met Thr Glu Ala His Ala Thr Ala Gly Val Pro Met Arg Trp Val Gly
1 5 10 15

Pro Val Arg Ile Ser Gly Asn Val Ala Thr Ile Glu Thr Gln Val Pro
20 25 30

Leu Ala Thr Tyr Glu Ser Pro Leu Trp Pro Ser Val Gly Arg Gly Ala
35 40 45

Lys Val Ser Arg Leu Thr Glu Lys Gly Ile Val Ala Thr Leu Val Asp
50 55 60

Glu Arg Met Thr Arg Ser Val Leu Val Glu Ala Thr Asp Ala Leu Thr
65 70 75 80

Ala Leu Ser Ala Ala Arg Thr Ile Glu Ala Arg Ile Asp Glu Leu Arg
85 90 95

Glu Leu Val Arg Gly Cys Ser Arg Phe Ala Gln Leu Ile Gly Ile Arg
100 105 110

His Glu Ile Thr Gly Asn Leu Leu Phe Val Arg Phe Glu Phe Ser Thr
115 120 125

Gly Asp Ala Ser Gly His Asn Met Ala Thr Leu Ala Ser Asp Val Leu

130	135	140															
Leu	Gln	His	Leu	Leu	Glu	Thr	Val	Pro	Gly	Ile	Ser	Tyr	Gly	Ser	Ile		
145					150					155					160		
Ser	Gly	Asn	Tyr	Cys	Thr	Asp	Lys	Lys	Ala	Thr	Ala	Ile	Asn	Gly	Ile		
				165					170					175			
Leu	Gly	Arg	Gly	Lys	Asn	Val	Val	Thr	Glu	Leu	Leu	Val	Pro	Arg	Asp		
			180					185					190				
Val	Val	Ala	Asp	Val	Leu	Asn	Thr	Thr	Ala	Ala	Lys	Ile	Ala	Glu	Leu		
		195					200					205					
Asn	Leu	Arg	Lys	Asn	Leu	Leu	Gly	Thr	Leu	Leu	Ala	Gly	Gly	Ile	Arg		
	210					215					220						
Ser	Ala	Asn	Ala	His	Tyr	Ala	Asn	Met	Leu	Leu	Ala	Phe	Tyr	Leu	Ala		
225					230				235						240		
Thr	Gly	Gln	Asp	Ala	Ala	Asn	Ile	Val	Glu	Gly	Ser	Gln	Gly	Val	Val		
				245					250					255			
Thr	Ala	Glu	Asp	Arg	Asp	Gly	Asp	Leu	Tyr	Leu	Ala	Cys	Thr	Leu	Pro		
			260					265					270				
Asn	Leu	Ile	Val	Gly	Thr	Val	Gly	Asn	Gly	Lys	Gly	Leu	Gly	Phe	Val		
	275						280					285					
Glu	Thr	Asn	Leu	Asn	Arg	Leu	Gly	Cys	Arg	Ala	Asp	Arg	Glu	Pro	Gly		
	290					295					300						
Glu	Asn	Ala	Arg	Arg	Leu	Ala	Val	Ile	Ala	Ala	Ala	Thr	Val	Leu	Cys		
305					310				315						320		
Gly	Glu	Leu	Ser	Leu	Leu	Ala	Ala	Gln	Thr	Asn	Pro	Gly	Glu	Leu	Met		
				325				330						335			
Arg	Ala	His	Val	Gln	Leu	Glu	Arg	Gly	His	Thr	Thr	Ala	Lys	Ala	Gly		
			340					345					350				

Val

<210> 277

<211> 434

<212> PRT
<213> Leishmania major

<400> 277

Met Arg Arg Ser Leu Leu Leu Ala Cys Ser Ala Ala Lys Gly Glu Ser
1 5 10 15

Trp Ala Ser Met Ser Asp Thr Glu Ile Met Lys Gln Val Glu Asn Lys
20 25 30

Lys Ile Ala Phe His Gly Leu Glu Gln Ala Leu Ala Pro Asp Tyr Asp
35 40 45

Arg Ala Ile Ala Ile Arg Arg Glu Ile Val Lys Lys Lys Ile Cys Pro
50 55 60

Ser Pro Ala Ala Thr His Pro Leu Glu Arg Val Pro Tyr Lys Asn Tyr
65 70 75 80

Asp Trp Ser Ser Val Val Gly Gln Ser Cys Glu Asn Ile Leu Gly Tyr
85 90 95

Val Pro Val Pro Val Gly Leu Ala Gly Pro Leu Leu Leu Asp Gly Lys
100 105 110

Glu Val Ala Leu Pro Met Ala Thr Thr Glu Gly Ala Leu Val Ala Ser
115 120 125

Ala His Arg Gly Ala Arg Ala Ile Asn Leu Ser Gly Gly Cys Arg Thr
130 135 140

Ala Val Leu Lys Glu Gly Met Thr Arg Ala Pro Val Val Glu Val Asn
145 150 155 160

Ser Phe Asp Glu Ala Ile Thr Val Ile Lys Phe Cys Glu Glu Arg Phe
165 170 175

Asp Val Leu Arg Glu Ala Phe Glu Ser Thr Thr Arg Phe Gly Lys Leu
180 185 190

Leu Ser Ile Lys Cys Ala Met Ala Gly Arg Gln Val His Leu Arg Phe
195 200 205

Ser Ala Phe Thr Gly Asp Ala Met Gly Met Asn Met Ile Thr Lys Gly
210 215 220

Cys Asp Lys Ala Leu Gln Val Leu Gln Gln His Ile Pro Ser Val Arg
 225 230 235 240

Val Leu Thr Leu Ser Gly Asn Phe Cys Thr Asp Lys Lys Pro Ser Ala
 245 250 255

Leu Asn Trp Val Glu Gly Arg Gly Lys Ser Val Val Ala Glu Ala Val
 260 265 270

Ile Lys Arg Asp Val Val Glu Ser Val Leu Lys Cys Thr Val Asp Ser
 275 280 285

Val Val Ser Leu Asn Val Thr Lys Asn Leu Arg Gly Ser Ala Leu Ala
 290 295 300

Gly Ser Ile Gly Gly Phe Asn Ala His Ala Ala Asn Ile Val Ala Ala
 305 310 315 320

Leu Tyr Ile Ala Thr Gly Gln Asp Pro Ala Gln Val Val Glu Ser Ala
 325 330 335

Thr Cys Met Thr Thr Val Asp Lys Ala Gly Glu Asp Leu Val Ile Ser
 340 345 350

Leu Met Met Pro Ser Ile Glu Val Gly Ala Val Gly Gly Gly Thr Gly
 355 360 365

Leu Ser Ser Gln Arg Ala Met Leu Glu Leu Met Gly Cys Ala Gly Ser
 370 375 380

Asn Lys Glu Asp Pro Gly Ala His Ser Arg Gln Ile Ala Arg Val Val
 385 390 395 400

Ala Gly Ala Val Ile Cys Gly Glu Leu Ser Leu Leu Ser Gly Leu Ala
 405 410 415

Ala Gly His Leu Leu Ser Ala His Met Lys Leu Asn Arg Lys Pro Pro
 420 425 430

Thr Pro

<210> 278
 <211> 247
 <212> PRT
 <213> Anthonomus grandis

<220>
 <221> MISC_FEATURE
 <222> (1)..(247)
 <223> X equals unknown

<400> 278

Glu Ala Met Gly Met Asn Met Ile Ser Lys Gly Thr Glu Lys Ser Leu
 1 5 10 15

Ala Tyr Ile Lys Ser His Phe Glu Asp Met Glu Ile Leu Ser Leu Ser
 20 25 30

Gly Asn Val Cys Thr Asp Lys Lys Pro Ser Ala Ile Asn Trp Ile Glu
 35 40 45

Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Val Pro Ala Asn Ile
 50 55 60

Val His Ser Ile Leu Lys Thr Thr Thr His Ala Leu Val Asp Leu Asn
 65 70 75 80

Ile Ser Lys Asn Met Val Gly Ser Ala Val Ser Ala Ala Ile Gly Gly
 85 90 95

Phe Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Thr
 100 105 110

Gly Gln Asp Val Ala Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu
 115 120 125

Met Glu Pro Cys Gly Asp Lys Gly Glu Asp Leu Leu Ile Ser Cys Thr
 130 135 140

Met Pro Ser Val Glu Ile Gly Thr Val Gly Gly Gly Thr Val Leu Pro
 145 150 155 160

Ala Gln Gly Ala Cys Leu Glu Met Leu Gly Val Lys Gly Ala His Ser
 165 170 175

Glu Asn Pro Gly Asp Asn Ala Lys Gln Leu Ala Lys Ile Val Cys Gly
 180 185 190

Ala Val Leu Ala Gly Glu Leu Ser Leu Met Ala Ala Leu Val Thr Gly
 195 200 205

His Leu Val Lys Ser His Leu Arg Leu Asn Arg Ser Tyr Ser Glu Lys

210	215	220
Asp Ser Pro Phe Lys Lys Ser Val Gly Gly Ser Ser Xaa Met Ser Asn		
225	230	235 240
Ile Thr Gln Phe Gln Tyr Gly		
245		
<210> 279		
<211> 846		
<212> PRT		
<213> Dendroctonus jeffreyi		
<400> 279		
Met Ala Ser Arg Leu Phe Arg Val His Gly Glu Phe Cys Thr Asn His		
1	5	10 15
Pro Trp Glu Val Ile Val Ala Thr Leu Thr Leu Thr Ala Cys Met Leu		
	20	25 30
Thr Val Glu Gln Gln Pro Pro Leu Arg Pro Ile Lys Pro Thr Ile Lys		
	35	40 45
Ser Cys Leu Gly Cys Ile Gln Glu Ala Glu His Asn Ala Ala Asp Leu		
	50	55 60
Ile Ser Met Thr Ile Leu Arg Ser Leu Ala Val Leu Tyr Cys Tyr Tyr		
65	70	75 80
Gln Phe Arg Lys Met His Lys Leu Gly Ser Lys Tyr Val Leu Gly Ile		
	85	90 95
Ala Gly Leu Phe Thr Val Phe Ser Ser Leu Val Phe Thr Thr Thr Val		
	100	105 110
Leu Asn Ile Leu Arg Ile Lys Val Ser Asp Leu Lys Asp Ala Leu Phe		
	115	120 125
Phe Phe Leu Leu Leu Ile Asp Leu Ser Lys Ala Ala Ile Leu Ala Gln		
	130	135 140
Phe Ala Leu Asn Gly Ala Asn Gln Ala Glu Arg Lys Thr Asn Ile Ala		
145	150	155 160
Lys Gly Leu Ala Glu Leu Gly Pro Thr Ile Thr Leu Asp Thr Leu Val		
	165	170 175

Glu Thr Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Ala Arg Leu
180 185 190

Glu Met Leu Ser Trp Phe Ala Cys Leu Ser Val Leu Val Asn Tyr Ile
195 200 205

Val Phe Met Thr Phe Tyr Pro Ala Cys Leu Ser Leu Ile Leu Glu Leu
210 215 220

Ser Gln Ser Ser Asn Phe Cys Lys Thr Lys Asp Ser Trp Lys Ile Phe
225 230 235 240

Ala Phe Lys Glu Asp Arg Lys Ser Asn Pro Val Leu Gln Arg Val Lys
245 250 255

Leu Ile Met Ser Val Gly Leu Met Val Val His Val Gln Ser Arg Trp
260 265 270

Pro Phe Arg Asp Ser Glu Val Tyr Thr Ile Glu Pro Leu Val Gln Gln
275 280 285

Ser Phe Asn Lys Thr Asp Asp Ser Ile Ala Thr His Val Ser Phe Ile
290 295 300

Arg Trp Leu Val Leu Gly Ala Asp His Ile Val Ile Ile Ile Leu Val
305 310 315 320

Ser Ala Leu Leu Ile Lys Leu Ile Phe Phe Glu Ile Lys Asp Asn Leu
325 330 335

Val Glu Ile Lys Pro Gly Phe Asp Lys Glu Thr Pro Lys Pro Thr Lys
340 345 350

Gln Met Pro Met Ile Asn Phe Thr Leu Gly Glu Ser Cys Glu Ser Thr
355 360 365

Tyr Glu Asp Lys Glu Val Gln Thr Leu Ala Thr Ser Asn Ser Asp Val
370 375 380

Asp Ser Ser Ser Asp Asp Gly Val Pro Lys Gln Cys Arg Ser Leu Glu
385 390 395 400

Asp Cys Val Lys Ile Phe Lys Asn Ile Asp Leu Gly Ala Thr Ala Leu
405 410 415

Thr Asp Asp Glu Ile Ile Leu Leu Ile Lys Asn Lys Asn Ile Ala Ala
 420 425 430
 Tyr Gln Ile Glu Lys Glu Val Asp Asp Pro Glu Arg Gly Val Gly Ile
 435 440 445
 Arg Arg Lys Ile Leu Gly Arg Asp Leu Leu Glu Ser Pro Lys Leu Leu
 450 455 460
 Glu Asn Leu Pro Phe Arg Asn Tyr Asp Tyr Ser Leu Val Met Gly Ala
 465 470 475 480
 Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro Val Gly Tyr Ala
 485 490 495
 Gly Pro Leu Leu Leu Asp Gly Arg Glu Leu Tyr Ile Pro Met Ala Thr
 500 505 510
 Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Leu
 515 520 525
 Lys Val Ser Gly Val Thr Ser Ser Val Val Ala Asp Gly Met Thr Arg
 530 535 540
 Gly Pro Val Val Arg Phe Pro Ser Ile Val Arg Thr Ser Gln Ala Met
 545 550 555 560
 Gln Trp Ile Gln Asp Pro Asp Asn Phe Lys Lys Ile Lys Glu Gln Phe
 565 570 575
 Asp Ser Ser Ser Arg Phe Ala Arg Leu Gln Arg Leu Thr Leu Lys Ile
 580 585 590
 Ala Gly Arg Phe Leu Phe Ile Arg Phe Ile Ala Thr Thr Gly Asp Ala
 595 600 605
 Met Gly Met Asn Met Leu Ser Lys Gly Thr Glu Tyr Ser Leu Lys Leu
 610 615 620
 Val Gln Gln Val Phe Tyr Asp Met Glu Ile Leu Ser Leu Ser Gly Asn
 625 630 635 640
 Phe Cys Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg
 645 650 655
 Gly Lys Ser Val Val Cys Glu Ala Ile Val Pro Ala Lys Ile Ile Ser

660	665	670
Ser Ile Leu Lys Thr Asn Val His Ala Leu Val Asp Val Asn Asn Ile		
675	680	685
Gln Glu His Val Gly Ser Ala Val Ala Gly Ser Ile Gly Gly Phe Asn		
690	695	700
Ala His Ala Ala Asn Ile Val Thr Ala Ile Phe Leu Ala Thr Gly Gln		
705	710	715
Asp Pro Ala Gln Asn Val Ser Ser Ser Asn Cys Met Thr Leu Met Glu		
	725	730
Pro Trp Gly Pro Asp Gly Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro		
	740	745
Ser Ile Glu Ile Gly Thr Ile Gly Gly Gly Thr Ile Leu Pro Ala Gln		
	755	760
Ser Ala Cys Leu Asp Ile Leu Gly Val Lys Gly Ser Asn Arg Glu Asn		
	770	775
Pro Gly Ala Asn Ala Cys Gln Leu Ala Lys Ile Val Cys Gly Thr Val		
	785	790
Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Leu Thr Ala Gly His Leu		
	805	810
Val Lys Ser His Leu Arg His Asn Arg Ser Thr Thr Leu Leu Pro Asp		
	820	825
Ala Phe Asp Arg Lys Lys Ile Ser Phe Thr Gln Leu Pro Arg		
	835	840
<210> 280		
<211> 846		
<212> PRT		
<213> Dendroctonus jeffreyi		
<400> 280		
Met Ala Ser Arg Leu Phe Arg Val His Gly Glu Phe Cys Thr Asn His		
1	5	10
Pro Trp Glu Val Ile Val Ala Thr Leu Thr Leu Thr Ala Cys Met Leu		
	20	25
		30

Thr	Val	Glu	Gln	Gln	Pro	Pro	Leu	Arg	Pro	Ile	Lys	Pro	Thr	Ile	Lys	35	40	45	
Ser	Cys	Leu	Gly	Cys	Ile	Gln	Glu	Ala	Glu	His	Asn	Ala	Ala	Asp	Leu	50	55	60	
Ile	Ser	Met	Thr	Ile	Leu	Arg	Ser	Leu	Ala	Val	Leu	Tyr	Cys	Tyr	Tyr	65	70	75	80
Gln	Phe	Arg	Lys	Met	His	Lys	Leu	Gly	Ser	Lys	Tyr	Val	Leu	Gly	Ile	85	90	95	
Ala	Gly	Leu	Phe	Thr	Val	Phe	Ser	Ser	Leu	Val	Phe	Thr	Thr	Thr	Val	100	105	110	
Leu	Asn	Ile	Leu	Arg	Ile	Lys	Val	Ser	Asp	Leu	Lys	Asp	Ala	Leu	Phe	115	120	125	
Phe	Phe	Leu	Leu	Leu	Ile	Asp	Leu	Ser	Lys	Ala	Ala	Ile	Leu	Ala	Gln	130	135	140	
Phe	Ala	Leu	Asn	Gly	Ala	Asn	Gln	Ala	Glu	Arg	Lys	Thr	Asn	Ile	Ala	145	150	155	160
Lys	Gly	Leu	Ala	Glu	Leu	Gly	Pro	Thr	Ile	Thr	Leu	Asp	Thr	Leu	Val	165	170	175	
Glu	Thr	Leu	Val	Ile	Gly	Val	Gly	Thr	Met	Ser	Gly	Val	Ala	Arg	Leu	180	185	190	
Glu	Met	Leu	Ser	Trp	Phe	Ala	Cys	Leu	Ser	Val	Leu	Val	Asn	Tyr	Ile	195	200	205	
Val	Phe	Met	Thr	Phe	Tyr	Pro	Ala	Cys	Leu	Ser	Leu	Ile	Leu	Glu	Leu	210	215	220	
Ser	Gln	Ser	Ser	Asn	Phe	Cys	Lys	Thr	Lys	Asp	Ser	Trp	Lys	Ile	Phe	225	230	235	240
Ala	Phe	Lys	Glu	Asp	Arg	Lys	Ser	Asn	Pro	Val	Leu	Gln	Arg	Val	Lys	245	250	255	
Leu	Ile	Met	Ser	Val	Gly	Leu	Met	Val	Val	His	Val	Gln	Ser	Arg	Trp	260	265	270	

Pro Phe Arg Asp Ser Glu Val Tyr Thr Ile Glu Pro Leu Val Gln Gln
 275 280 285

Ser Phe Asn Lys Thr Asp Asp Ser Ile Ala Thr His Val Ser Phe Ile
 290 295 300

Arg Trp Leu Val Leu Gly Ala Asp His Ile Val Ile Ile Ile Leu Val
 305 310 315 320

Ser Ala Leu Leu Ile Lys Leu Ile Phe Phe Glu Ile Lys Asp Asn Leu
 325 330 335

Val Glu Ile Lys Pro Gly Phe Asp Lys Glu Thr Pro Lys Pro Thr Lys
 340 345 350

Gln Met Pro Met Ile Asn Phe Thr Leu Gly Glu Ser Cys Glu Ser Thr
 355 360 365

Tyr Glu Asp Lys Glu Val Gln Thr Leu Ala Thr Ser Asn Ser Asp Val
 370 375 380

Asp Ser Ser Ser Asp Asp Gly Val Pro Lys Gln Cys Arg Ser Leu Glu
 385 390 395 400

Asp Cys Val Lys Ile Phe Lys Asn Ile Asp Leu Gly Ala Thr Ala Leu
 405 410 415

Thr Asp Asp Glu Ile Ile Leu Leu Ile Lys Asn Lys Asn Ile Ala Ala
 420 425 430

Tyr Gln Ile Glu Lys Glu Val Asp Asp Pro Glu Arg Gly Val Gly Ile
 435 440 445

Arg Arg Lys Ile Leu Gly Arg Asp Leu Leu Glu Ser Pro Lys Leu Leu
 450 455 460

Glu Asn Leu Pro Phe Arg Asn Tyr Asp Tyr Ser Leu Val Met Gly Ala
 465 470 475 480

Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro Val Gly Tyr Ala
 485 490 495

Gly Pro Leu Leu Leu Asp Gly Arg Glu Leu Tyr Ile Pro Met Ala Thr
 500 505 510

Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Leu

Ser Ala Cys Leu Asp Ile Leu Gly Val Lys Gly Ser Asn Arg Glu Asn
 770 775 780

Pro Gly Ala Asn Ala Cys Gln Leu Ala Lys Ile Val Cys Gly Thr Val
 785 790 795 800

Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Leu Thr Ala Gly His Leu
 805 810 815

Val Lys Ser His Leu Arg His Asn Arg Ser Thr Thr Leu Leu Pro Asp
 820 825 830

Ala Phe Asp Arg Lys Lys Ile Ser Phe Thr Gln Leu Pro Arg
 835 840 845

<210> 281
 <211> 976
 <212> PRT
 <213> Gibberella fujikuroi

<400> 281

Met Asp His Glu Gly Cys Gln Gly Gln His Pro Gln Gln Cys Cys Gln
 1 5 10 15

Trp Val Ser Asn Ala Trp Ser Glu Phe Leu Asp Leu Leu Lys Asn Ala
 20 25 30

Glu Thr Leu Asp Ile Val Ile Met Leu Leu Gly Tyr Ile Ala Met His
 35 40 45

Leu Thr Phe Val Ser Leu Phe Leu Ser Met Arg Lys Met Gly Ser Lys
 50 55 60

Phe Trp Leu Gly Ile Cys Thr Leu Phe Ser Ser Val Phe Ala Phe Leu
 65 70 75 80

Phe Gly Leu Val Val Thr Thr Lys Leu Gly Val Pro Ile Ser Val Ile
 85 90 95

Leu Leu Ser Glu Gly Leu Pro Phe Leu Val Val Thr Ile Gly Phe Glu
 100 105 110

Lys Asn Ile Val Leu Thr Arg Ala Val Met Ser His Ala Ile Glu His
 115 120 125

Arg Arg Ile Gln Ala Gln Asn Ser Lys Ser Gly Lys Arg Ser Pro Asp
 130 135 140
 Gly Ser Thr Gln Asn Met Ile Gln Tyr Ala Val Gln Ala Ala Ile Lys
 145 150 155 160
 Glu Lys Gly Phe Glu Ile Ile Arg Asp Tyr Ala Ile Glu Ile Val Ile
 165 170 175
 Leu Val Ile Gly Ala Ala Ser Gly Val Gln Gly Gly Leu Gln Gln Phe
 180 185 190
 Cys Phe Leu Ala Ala Trp Thr Leu Phe Phe Asp Phe Ile Leu Leu Phe
 195 200 205
 Thr Phe Tyr Thr Ala Ile Leu Ser Ile Lys Leu Arg Ser Thr Val Ser
 210 215 220
 Ser Val Met Ser Ile Cys Val Trp Pro Leu Arg Met Met Ala Ser Arg
 225 230 235 240
 Arg Val Ala Glu Asn Val Ala Lys Gly Asp Asp Glu Leu Asn Arg Val
 245 250 255
 Arg Gly Asp Ala Pro Leu Phe Gly Arg Lys Ser Ser Ser Ile Pro Lys
 260 265 270
 Phe Lys Val Leu Met Ile Leu Gly Phe Ile Phe Val Asn Ile Val Asn
 275 280 285
 Ile Cys Ser Ile Pro Phe Arg Asn Pro Ser Ser Met Ser Thr Ile Arg
 290 295 300
 Thr Trp Ala Ser Ser Leu Gly Gly Val Ile Ala Pro Leu Ser Val Asp
 305 310 315 320
 Pro Phe Lys Val Ala Ser Asn Gly Leu Asp Ala Ile Leu Pro Thr Ala
 325 330 335
 Lys Ser Asn Asn Arg Pro Thr Leu Val Thr Val Leu Thr Pro Ile Lys
 340 345 350
 Tyr Glu Leu Glu Tyr Pro Ser Ile His Tyr Ala Leu Gly Ser Ala Ala
 355 360 365
 Ser Asn Pro Ala Tyr Asn Asp Ala Phe His His His Phe Gln Gly Tyr

370	375	380															
Gly Val Gly Gly Arg Met Val Gly Gly Ile Leu Lys Ser Leu Glu Asp																	
385					390					395							400
Pro Val Leu Ser Lys Trp Ile Val Ile Ala Leu Ala Leu Ser Val Ala																	
				405					410								415
Leu Asn Gly Tyr Leu Phe Asn Val Ala Arg Trp Gly Ile Lys Asp Pro																	
				420					425								430
Asn Val Pro Glu His Asn Ile Asp Arg Asn Glu Leu Ala Arg Ala Arg																	
				435					440								445
Glu Phe Asn Asp Thr Gly Ser Ala Thr Leu Pro Leu Gly Glu Tyr Val																	
				450					455								460
Pro Pro Thr Pro Met Arg Thr Gln Pro Ser Thr Pro Ala Ile Thr Asp																	
				465					470								475
Asp Glu Ala Glu Gly Leu His Met Thr Lys Ala Arg Pro Ala Asn Leu																	
				485					490								495
Pro Asn Arg Ser Asn Glu Glu Leu Glu Lys Leu Leu Ser Glu Asn Ala																	
				500					505								510
Leu Arg Glu Met Thr Asp Glu Glu Val Ile Ser Leu Ser Met Arg Gly																	
				515					520								525
Lys Ile Pro Gly Tyr Ala Leu Glu Lys Thr Leu Gly Asp Phe Thr Arg																	
				530					535								540
Ala Val Lys Ile Arg Arg Ser Ile Ile Ala Arg Asn Lys Ala Ala Ala																	
				545					550								555
Asp Ile Thr His Ser Leu Asp Arg Ser Lys Leu Pro Tyr Glu Asn Tyr																	
				565					570								575
Asn Trp Glu Arg Phe Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr																	
				580					585								590
Met Pro Leu Pro Val Gly Val Ala Gly Pro Leu Val Ile Asp Gly Gln																	
				595					600								605
Ser Tyr Phe Ile Pro Met Ala Thr Thr Glu Gly Val Leu Val Ala Ser																	
				610					615								620

Ala Ser Arg Gly Cys Lys Ala Ile Asn Ser Gly Gly Gly Ala Ile Thr
625 630 635 640

Val Leu Thr Ala Asp Gly Met Thr Arg Gly Pro Cys Val Ala Phe Glu
645 650 655

Thr Leu Glu Arg Ala Gly Ala Ala Lys Leu Trp Leu Asp Ser Glu Ala
660 665 670

Gly Gln Asp Met Met Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala
675 680 685

Arg Leu Gln Ser Met Lys Thr Ala Leu Ala Gly Thr Asn Leu Tyr Ile
690 695 700

Arg Phe Lys Thr Thr Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser
705 710 715 720

Lys Gly Val Glu His Ala Leu Ser Val Met Ala Asn Asp Gly Gly Phe
725 730 735

Asp Asp Met Gln Ile Ile Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys
740 745 750

Lys Ala Ala Ala Leu Asn Trp Ile Asp Gly Arg Gly Lys Gly Val Val
755 760 765

Ala Glu Ala Ile Ile Pro Gly Glu Val Val Arg Ser Val Leu Lys Ser
770 775 780

Asp Val Asp Ser Leu Val Glu Leu Asn Val Ala Lys Asn Leu Ile Gly
785 790 795 800

Ser Ala Met Ala Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn
805 810 815

Ile Val Ala Ala Ile Phe Leu Ala Thr Gly Gln Asp Pro Ala Gln Val
820 825 830

Val Glu Ser Ala Asn Cys Ile Thr Ile Met Lys Asn Leu Asn Gly Ala
835 840 845

Leu Gln Ile Ser Val Ser Met Pro Ser Leu Glu Val Gly Thr Leu Gly
850 855 860

Gly Gly Thr Ile Leu Glu Pro Gln Gly Ala Met Leu Asp Ile Leu Gly
865 870 875 880

Val Arg Gly Ser His Pro Thr Asn Pro Gly Asp Asn Ala Arg Arg Leu
885 890 895

Ala Arg Ile Ile Gly Ala Ala Val Leu Ala Gly Glu Leu Ser Leu Cys
900 905 910

Ser Ala Leu Ala Ala Gly His Leu Val Arg Ala His Met Gln His Asn
915 920 925

Arg Ser Ala Ala Pro Ser Arg Ser Thr Thr Pro Gly Ser Ser His Asp
930 935 940

Ala Arg Leu Thr Gly His Asp Gln Cys Pro Arg Ala Leu Ser Val Asn
945 950 955 960

Asn Val Asp Glu Arg Arg Arg Tyr Ser Glu Val Lys Ala Ile Asp Glu
965 970 975

<210> 282

<211> 353

<212> PRT

<213> Streptomyces sp.

<400> 282

Met Thr Asp Thr His Ala Ile Ala Met Val Pro Met Lys Trp Val Gly
1 5 10 15

Pro Leu Arg Ile Ser Gly Asn Val Ala Thr Thr Glu Thr His Val Pro
20 25 30

Leu Ala Thr Tyr Glu Thr Pro Leu Trp Pro Ser Val Gly Arg Gly Ala
35 40 45

Lys Val Ser Met Leu Ser Glu Arg Gly Ile Ala Ala Thr Leu Val Asp
50 55 60

Glu Arg Met Thr Arg Ser Val Leu Val Glu Ala Thr Asp Ala Gln Thr
65 70 75 80

Ala Tyr Thr Ala Ala Arg Ala Ile Glu Ala Arg Ile Glu Glu Leu Arg
85 90 95

Ala Val Val Arg Thr Cys Ser Arg Phe Ala Glu Leu Leu Gln Val Arg

100					105					110					
His	Glu	Ile	Ala	Gly	Asn	Leu	Leu	Phe	Val	Arg	Phe	Glu	Phe	Ser	Thr
		115					120					125			
Arg	Arg	Pro	Ser	Gly	His	Asn	Met	Ala	Thr	Leu	Ala	Ser	Asp	Ala	Leu
	130					135					140				
Leu	Ala	His	Leu	Leu	Gln	Thr	Ile	Pro	Gly	Ile	Ser	Tyr	Gly	Ser	Ile
145					150					155					160
Ser	Gly	Asn	Tyr	Cys	Thr	Asp	Lys	Lys	Ala	Thr	Ala	Ile	Asn	Gly	Ile
				165					170					175	
Leu	Gly	Arg	Gly	Lys	Asn	Val	Val	Thr	Glu	Leu	Val	Val	Glu	Arg	Glu
			180					185					190		
Val	Val	Glu	Arg	Val	Leu	His	Thr	Thr	Ala	Ala	Lys	Ile	Val	Glu	Leu
		195					200					205			
Asn	Ile	Arg	Lys	Asn	Leu	Leu	Gly	Thr	Leu	Leu	Ala	Gly	Gly	Ile	Arg
	210					215					220				
Ser	Ala	Asn	Ala	His	Tyr	Ala	Asn	Met	Leu	Leu	Gly	Phe	Tyr	Leu	Ala
225					230					235					240
Thr	Gly	Gln	Asp	Ala	Ala	Asn	Ile	Val	Glu	Gly	Ser	Gln	Gly	Val	Thr
				245					250					255	
Leu	Ala	Glu	Asp	Arg	Asp	Gly	Asp	Leu	Tyr	Phe	Ser	Cys	Asn	Leu	Pro
			260					265					270		
Asn	Leu	Ile	Val	Gly	Thr	Val	Gly	Asn	Gly	Lys	Gly	Leu	Glu	Phe	Val
		275					280					285			
Glu	Thr	Asn	Leu	Asn	Arg	Leu	Gly	Cys	Arg	Glu	Asp	Arg	Ala	Pro	Gly
	290					295					300				
Glu	Asn	Ala	Arg	Arg	Leu	Ala	Val	Ile	Ala	Ala	Ala	Thr	Val	Leu	Cys
305					310				315						320
Gly	Glu	Leu	Ser	Leu	Leu	Ala	Ala	Gln	Thr	Asn	Pro	Gly	Glu	Leu	Met
				325					330					335	
Arg	Ala	His	Val	Glu	Leu	Glu	Arg	Asp	Asn	Thr	Thr	Ala	Glu	Val	Gly
			340					345					350		

Val

<210> 283
<211> 353
<212> PRT
<213> Kitasatospora griseola

<400> 283

Met Thr Glu Ala His Ala Thr Ala Gly Val Pro Met Arg Trp Val Gly
1 5 10 15

Pro Val Arg Ile Ser Gly Asn Val Ala Thr Ile Glu Thr Gln Val Pro
20 25 30

Leu Ala Thr Tyr Glu Ser Pro Leu Trp Pro Ser Val Gly Arg Gly Ala
35 40 45

Lys Val Ser Arg Leu Thr Glu Lys Gly Ile Val Ala Thr Leu Val Asp
50 55 60

Glu Arg Met Thr Arg Ser Val Leu Val Glu Ala Thr Asp Ala Leu Thr
65 70 75 80

Ala Leu Ser Ala Ala Arg Thr Ile Glu Ala Arg Ile Asp Glu Leu Arg
85 90 95

Glu Leu Val Arg Gly Cys Ser Arg Phe Ala Gln Leu Ile Gly Ile Arg
100 105 110

His Glu Ile Thr Gly Asn Leu Leu Phe Val Arg Phe Glu Phe Ser Thr
115 120 125

Gly Asp Ala Ser Gly His Asn Met Ala Thr Leu Ala Ser Asp Val Leu
130 135 140

Leu Gln His Leu Leu Glu Thr Val Pro Gly Ile Ser Tyr Gly Ser Ile
145 150 155 160

Ser Gly Asn Tyr Cys Thr Asp Lys Lys Ala Thr Ala Ile Asn Gly Ile
165 170 175

Leu Gly Arg Gly Lys Asn Val Val Thr Glu Leu Leu Val Pro Arg Asp
180 185 190

Val Val Ala Asp Val Leu Asn Thr Thr Ala Ala Lys Ile Ala Glu Leu
195 200 205

Asn Leu Arg Lys Asn Leu Leu Gly Thr Leu Leu Ala Gly Gly Ile Arg
210 215 220

Ser Ala Asn Ala His Tyr Ala Asn Met Leu Leu Ala Phe Tyr Leu Ala
225 230 235 240

Thr Gly Gln Asp Ala Ala Asn Ile Val Glu Gly Ser Gln Gly Val Val
245 250 255

Thr Ala Glu Asp Arg Asp Gly Asp Leu Tyr Leu Ala Cys Thr Leu Pro
260 265 270

Asn Leu Ile Val Gly Thr Val Gly Asn Gly Lys Gly Leu Gly Phe Val
275 280 285

Glu Thr Asn Leu Asn Arg Leu Gly Cys Arg Ala Asp Arg Glu Pro Gly
290 295 300

Glu Asn Ala Arg Arg Leu Ala Val Ile Ala Ala Ala Thr Val Leu Cys
305 310 315 320

Gly Glu Leu Ser Leu Leu Ala Ala Gln Thr Asn Pro Gly Glu Leu Met
325 330 335

Arg Ala His Val Gln Leu Glu Arg Gly His Thr Thr Ala Lys Ala Gly
340 345 350

Val

<210> 284

<211> 480

<212> PRT

<213> Mus musculus

<400> 284

Glu Phe Arg Ala Gln Gln Arg Phe Ser Thr Ile Pro Pro Ala Pro Leu
1 5 10 15

Ala Lys Thr Asp Thr Trp Pro Lys Asp Val Gly Ile Leu Ala Leu Glu
20 25 30

Val Tyr Phe Pro Ala Gln Tyr Val Asp Gln Thr Asp Leu Glu Lys Phe
35 40 45

Asn Asn Val Glu Ala Gly Lys Tyr Thr Val Gly Leu Gly Gln Thr Arg
50 55 60

Met Gly Phe Cys Ser Val Gln Glu Asp Ile Asn Ser Leu Cys Leu Thr
65 70 75 80

Val Val Gln Arg Leu Met Glu Arg Thr Lys Leu Pro Trp Asp Ala Val
85 90 95

Gly Arg Leu Glu Val Gly Thr Glu Thr Ile Ile Asp Lys Ser Lys Ala
100 105 110

Val Lys Thr Val Leu Met Glu Leu Phe Gln Asp Ser Gly Asn Thr Asp
115 120 125

Ile Glu Gly Ile Asp Thr Thr Asn Ala Cys Tyr Gly Gly Thr Ala Ser
130 135 140

Leu Phe Asn Ala Ala Asn Trp Met Glu Ser Ser Tyr Trp Asp Gly Arg
145 150 155 160

Tyr Ala Leu Val Val Cys Gly Asp Ile Ala Val Tyr Pro Ser Gly Asn
165 170 175

Ala Arg Pro Thr Gly Gly Ala Gly Ala Val Ala Met Leu Ile Gly Pro
180 185 190

Lys Ala Pro Leu Val Leu Glu Gln Gly Leu Arg Gly Thr His Met Glu
195 200 205

Asn Ala Tyr Asp Phe Tyr Lys Pro Asn Leu Ala Ser Glu Tyr Pro Leu
210 215 220

Val Asp Gly Lys Leu Ser Ile Gln Cys Tyr Leu Arg Ala Leu Asp Arg
225 230 235 240

Cys Tyr Ala Ala Tyr Arg Lys Lys Ile Gln Asn Gln Trp Lys Gln Ala
245 250 255

Gly Asn Asn Gln Pro Phe Thr Leu Asp Asp Val Gln Tyr Met Ile Phe
260 265 270

His Thr Pro Phe Cys Lys Met Val Gln Lys Ser Leu Ala Arg Leu Met
275 280 285

Phe Asn Asp Phe Leu Ser Ser Ser Ser Asp Lys Gln Asn Asn Leu Tyr
290 295 300

Lys Gly Leu Glu Ala Phe Arg Gly Leu Lys Leu Glu Glu Thr Tyr Thr
305 310 315 320

Asn Lys Asp Val Asp Lys Ala Leu Leu Lys Ala Ser Leu Asp Met Phe
325 330 335

Asn Gln Lys Thr Lys Ala Ser Leu Tyr Leu Ser Thr Asn Asn Gly Asn
340 345 350

Met Tyr Thr Ser Ser Leu Tyr Gly Cys Leu Ala Ser Leu Leu Ser His
355 360 365

His Ser Ala Gln Glu Leu Ala Gly Ser Arg Ile Gly Ala Phe Ser Tyr
370 375 380

Gly Ser Gly Leu Ala Ala Ser Phe Phe Ser Phe Arg Val Ser Lys Asp
385 390 395 400

Ala Ser Pro Gly Ser Pro Leu Glu Lys Leu Val Ser Ser Val Ser Asp
405 410 415

Leu Pro Lys Arg Leu Asp Ser Arg Arg Arg Met Ser Pro Glu Glu Phe
420 425 430

Thr Glu Ile Met Asn Gln Arg Glu Gln Phe Tyr His Lys Val Asn Phe
435 440 445

Ser Pro Pro Gly Asp Thr Ser Asn Leu Phe Pro Gly Thr Trp Tyr Leu
450 455 460

Glu Arg Val Asp Glu Met His Arg Arg Lys Tyr Ala Arg Cys Pro Val
465 470 475 480

<210> 285
<211> 508
<212> PRT
<213> Sus scrofa

<400> 285

Met Gln Arg Leu Leu Thr Pro Val Arg Gln Val Leu Arg Val Lys Arg
1 5 10 15

Ala Met Gln Glu Ala Ser Phe Met Pro Pro Leu Leu Pro Pro Ala Ala

	20		25		30														
His	Gln	Arg	Phe	Ser	Thr	Val	Pro	Ala	Val	Pro	Val	Ala	Lys	Ala	Asp				
	35						40					45							
Thr	Trp	Pro	Lys	Asp	Val	Gly	Ile	Leu	Ala	Leu	Glu	Val	Tyr	Phe	Pro				
	50					55					60								
Ala	Gln	Tyr	Val	Asp	Gln	Thr	Asp	Leu	Glu	Lys	Phe	Asp	Asn	Val	Glu				
65					70					75					80				
Ala	Gly	Arg	Tyr	Thr	Val	Gly	Leu	Gly	Gln	Thr	His	Met	Gly	Phe	Cys				
				85					90					95					
Ser	Val	Gln	Glu	Asp	Ile	Asn	Ser	Leu	Cys	Leu	Thr	Val	Val	Gln	Arg				
		100						105					110						
Leu	Met	Glu	Arg	Thr	Gln	Leu	Pro	Trp	Asp	Ser	Val	Gly	Trp	Leu	Glu				
	115						120					125							
Val	Gly	Thr	Glu	Thr	Ile	Ile	Asp	Lys	Ser	Lys	Ser	Val	Lys	Thr	Val				
	130					135					140								
Leu	Met	Glu	Leu	Phe	Gln	Asp	Ser	Gly	Asn	Thr	Asp	Ile	Glu	Gly	Ile				
145					150					155					160				
Asp	Thr	Thr	Asn	Ala	Cys	Tyr	Gly	Gly	Thr	Ala	Ser	Leu	Phe	Asn	Ala				
				165					170					175					
Ala	Asn	Trp	Val	Glu	Ser	Ser	Ala	Trp	Asp	Gly	Arg	Tyr	Ala	Val	Val				
			180					185					190						
Val	Cys	Gly	Asp	Ile	Ala	Val	Tyr	Pro	Arg	Gly	Asn	Ser	Arg	Pro	Thr				
	195						200					205							
Gly	Gly	Ala	Gly	Ala	Val	Ala	Met	Leu	Val	Gly	Pro	Glu	Ala	Pro	Leu				
	210					215					220								
Ala	Leu	Glu	Arg	Gly	Leu	Arg	Gly	Thr	His	Met	Glu	Asn	Ala	Tyr	Asp				
225					230					235					240				
Phe	Tyr	Lys	Pro	Asn	Ala	Thr	Ser	Glu	Tyr	Pro	Leu	Val	Asp	Gly	Lys				
				245					250					255					
Leu	Ser	Ile	Gln	Cys	Tyr	Leu	Arg	Ala	Leu	Asp	Arg	Cys	Tyr	Thr	Leu				
			260					265					270						

Tyr Arg Gln Lys Ile Glu Lys Gln Trp Lys Gln Ala Gly Ile Glu Arg
275 280 285

His Phe Thr Leu Asp Asp Leu Gln Phe Met Ile Phe His Thr Pro Phe
290 295 300

Cys Lys Leu Val Gln Lys Ser Leu Ala Arg Leu Met Phe Ser Asp Phe
305 310 315 320

Leu Leu Ala Asp Ser Asp Thr Gln Ser Ser Leu Tyr Lys Gly Leu Glu
325 330 335

Ala Phe Arg Gly Gln Lys Leu Glu Asp Thr Tyr Ala Asn Lys Asp Ile
340 345 350

Glu Lys Ala Phe Gln Lys Ala Ser Leu Asp Leu Phe Asn Lys Lys Thr
355 360 365

Lys Pro Ser Leu Tyr Leu Ser Leu His Asn Gly Asn Met Tyr Thr Ser
370 375 380

Ser Leu Tyr Gly Cys Leu Ala Ser Leu Leu Ser Gln Cys Ser Ala Gln
385 390 395 400

Asp Leu Ala Gly Ser Arg Ile Gly Ala Phe Ser Tyr Gly Ser Gly Leu
405 410 415

Ala Ala Ser Phe Tyr Ser Leu Arg Val Ser Gln Asp Ala Ser Pro Gly
420 425 430

Ser Pro Leu Glu Lys Leu Val Ser Ser Val Ser Asp Leu Pro Glu Arg
435 440 445

Leu Ala Ser Arg Lys Arg Val Ser Pro Glu Glu Phe Thr Glu Ile Met
450 455 460

Asn Gln Arg Glu Gln Tyr Tyr His Lys Val Asn Phe Thr Pro Pro Gly
465 470 475 480

Asp Pro Asn Ser Leu Phe Pro Gly Thr Trp Tyr Leu Glu Arg Val Asp
485 490 495

Glu Leu Tyr Arg Arg Lys Tyr Ala Arg His Leu Val
500 505

<210> 286
 <211> 409
 <212> PRT
 <213> Sulfolobus solfataricus

<400> 286

Met Lys Ile Asp Glu Val Val Glu Lys Leu Val Lys Gly Glu Ile Ser
 1 5 10 15

Phe His Glu Val Asp Asn Leu Leu Glu Ala Asn Ala Ala Met Val Ala
 20 25 30

Arg Arg Leu Ala Leu Glu Lys Ile Val Gly Val Gly Leu Pro Ser Ile
 35 40 45

Gly Ser Thr Val Ile Asp Tyr Ser Glu Ile Lys Asn Lys Asn Ala Glu
 50 55 60

Asn Val Ile Gly Ala Ile Gln Ile Pro Leu Gly Ile Val Gly Pro Ile
 65 70 75 80

Arg Val Asn Gly Asp Tyr Ala Lys Gly Asp Phe Tyr Val Pro Met Ala
 85 90 95

Thr Thr Glu Gly Ala Leu Ile Ala Ser Val Asn Arg Gly Ile Lys Ala
 100 105 110

Val Thr Leu Ser Gly Gly Val Arg Ala Lys Val Leu Lys Asp Glu Met
 115 120 125

Thr Arg Ala Pro Val Phe Lys Phe Asp Ser Ile Glu Gln Ile Pro Asn
 130 135 140

Phe Leu Lys Phe Ile Glu Glu Asn Leu Glu Lys Ile Arg Asn Ile Ala
 145 150 155 160

Asn Ser Thr Ser His His Gly Lys Leu Lys Ser Ile Thr Pro Phe Val
 165 170 175

Leu Gly Asn Asn Val Trp Leu Arg Phe Ser Phe Glu Thr Gly Asp Ala
 180 185 190

Met Gly Met Asn Met Val Thr Ile Ala Val Glu Lys Val Cys Glu Phe
 195 200 205

Ile Glu Glu Asn Phe Pro Ser Ala Asp Cys Leu Ala Val Ser Gly Asn

210	215	220															
Met Cys Ser Asp Lys Lys Gln Thr Asn Val Asn Ser Leu Phe Gly Arg																	
225		230				235											240
Gly Lys Thr Val Val Ala Glu Ala Leu Ile Lys Lys Asp Val Ile Arg																	
		245				250											255
Asn Ile Leu His Ser Asn Ala Gln Leu Ile His Asp Ile Asn Leu Arg																	
		260				265											270
Lys Asn Trp Leu Gly Thr Ala Arg Ala Gly Ser Leu Ser Gln Phe Asn																	
		275				280											285
Ala His Phe Ala Asn Ile Val Thr Ala Ile Phe Ile Ala Thr Gly Gln																	
		290				295											300
Asp Val Ala Gln Ile Val Glu Ser Ser Ser Gly Tyr Thr Trp Thr Glu																	
305		310				315											320
Val Arg Gly Glu Asp Leu Tyr Ile Ser Val Thr Leu Pro Ser Leu Glu																	
		325				330											335
Val Gly Thr Val Gly Gly Gly Thr Arg Leu Pro Thr Gln Lys Glu Ala																	
		340				345											350
Leu Ser Ile Met Gly Val Tyr Gly Ser Gly Asn Pro Pro Gly Ser Asn																	
		355				360											365
Ala Lys Lys Leu Ala Glu Ile Ile Ala Ser Thr Val Leu Ser Gly Glu																	
		370				375											380
Leu Asn Leu Leu Ala Ala Leu Ser Asn Lys Glu Leu Gly Lys Ala His																	
385		390				395											400
Ala Lys Leu Gly Arg Ala Met Lys Val																	
		405															

<210> 287
 <211> 1053
 <212> PRT
 <213> Schizosaccharomyces pombe

<400> 287

Met Ile Tyr Lys Leu Ala Ala Arg Tyr Pro Ile Gln Val Ile Ala Ile																	
1		5				10											15

Val Gly Ile Leu Val Ser Met Ala Tyr Phe Ser Phe Leu Glu Ala Leu
20 25 30
Thr Gln Glu Asp Phe Pro Val Leu Ile Arg Ala Leu Lys Arg Phe Gly
35 40 45
Ile Leu Asp Gly Phe Pro Asn Thr Arg Leu Pro Asn Glu Met Ile Leu
50 55 60
Lys Leu Ser Ser Val Gln Gly Glu Asp Ala Ser Val Trp Glu Gln Ile
65 70 75 80
Pro Ala Ala Glu Leu Gly Gly Glu Gly Phe Val Asp Phe Asp Ile Thr
85 90 95
Gln Trp Tyr Tyr Pro Ala Asn Ala Lys Val Asp Val Ala Gln Leu Val
100 105 110
Glu Pro Tyr Arg Asn Asp Cys Ile Phe His Asp Ala Ser Gly Ala Cys
115 120 125
His Phe Phe Phe Lys Glu Val Gly Asn Trp Thr Val Ser Ser Ile Ala
130 135 140
Leu Pro Ser Asn Leu Ala Asn Pro Pro Ile Asp Tyr Phe Leu Asp Ser
145 150 155 160
Ser Ser Thr Val Ile Gln Arg Ile Leu Pro Ala Ile Arg Glu His Gly
165 170 175
Ile Ser Trp Ser Trp Leu Leu Gln Leu Ile Ala Arg Thr Trp Met Asn
180 185 190
Thr Leu Lys Ile Ala Ser Gln Ala Ser Lys Thr Glu Leu Leu Ile Val
195 200 205
Gly Thr Ala Tyr Ala Cys Met Leu Ile Ser Ile Val Ser Leu Tyr Leu
210 215 220
Lys Met Arg Arg Leu Gly Ser Lys Phe Trp Leu Phe Phe Ser Val Leu
225 230 235 240
Leu Ser Thr Leu Phe Ser Val Gln Phe Ala Met Thr Leu Val Arg Ala
245 250 255

Ser Gly Val Arg Ile Ser Leu Val Ser Leu Ile Glu Ser Leu Pro Phe
 260 265 270
 Leu Ile Asn Val Val Ala Leu Asp Lys Ala Ala Glu Leu Thr Arg Gln
 275 280 285
 Val Ile Thr Arg Cys Ser Val Ser Asp Ser His Ser Pro Met His Glu
 290 295 300
 Asp Ile Ala Lys Ala Cys Arg Asn Ala Ala Pro Pro Ile Leu Arg His
 305 310 315 320
 Phe Ser Phe Gly Ile Val Val Leu Ala Ile Phe Ser Tyr Cys Asn Phe
 325 330 335
 Gly Ile Lys Gln Phe Phe Leu Phe Ala Ala Val Met Ile Tyr Asp Leu
 340 345 350
 Leu Leu Leu Phe Ser Phe Phe Val Ala Ile Leu Thr Leu Lys Leu Glu
 355 360 365
 Met Arg Arg Tyr Asn Ala Lys Asp Asp Val Arg Lys Val Leu Ile Glu
 370 375 380
 Glu Gly Leu Ser Glu Ser Thr Ala Arg His Val Ala Asp Gly Asn Asp
 385 390 395 400
 Ser Ser Ala Thr Thr Ser Ala Gly Ser Arg Tyr Phe Lys Val Arg Tyr
 405 410 415
 Gly Thr Lys Ile Ile Leu Phe Ile Phe Ile Ala Phe Asn Leu Phe Glu
 420 425 430
 Leu Cys Ser Ile Pro Phe Lys His Tyr Ala Ala Thr Ser Ala Ala Ala
 435 440 445
 Ala Arg Leu Ile Pro Leu Val Arg Ser Gln Tyr Pro Asp Phe Lys Ser
 450 455 460
 Gln Arg Leu Leu Asp Asp Gly Val Phe Asp Asp Val Leu Ser Ala Ile
 465 470 475 480
 Ser Ser Met Ser Asn Ile Glu Ser Pro Ser Val Arg Leu Leu Pro Ala
 485 490 495
 Val Phe Tyr Gly Ala Glu Leu Ser Ser Thr Ser Phe Leu Ser Thr Ile

500					505					510					
His	Ser	Phe	Ile	Asn	Asn	Trp	Ser	His	Tyr	Ile	Ser	Ala	Ser	Phe	Leu
		515					520					525			
Ser	Lys	Trp	Ile	Val	Cys	Ala	Leu	Ser	Leu	Ser	Ile	Ala	Val	Asn	Val
	530					535					540				
Phe	Leu	Leu	Asn	Ala	Ala	Arg	Leu	Asn	Ser	Ile	Lys	Glu	Glu	Pro	Glu
545						550					555				560
Lys	Lys	Val	Val	Glu	Lys	Val	Val	Glu	Val	Val	Lys	Tyr	Ile	Pro	Ser
				565					570					575	
Ser	Asn	Ser	Ser	Ser	Ile	Asp	Asp	Ile	Gln	Lys	Asp	Glu	Ile	Ala	Gln
			580					585					590		
Glu	Ser	Val	Val	Arg	Ser	Leu	Glu	Glu	Cys	Ile	Thr	Leu	Tyr	Asn	Asn
		595					600					605			
Gly	Gln	Ile	Ser	Thr	Leu	Asn	Asp	Glu	Glu	Val	Val	Gln	Leu	Thr	Leu
	610					615					620				
Ala	Lys	Lys	Ile	Pro	Leu	Tyr	Ala	Leu	Glu	Arg	Val	Leu	Lys	Asp	Val
625						630					635				640
Thr	Arg	Ala	Val	Val	Ile	Arg	Arg	Thr	Val	Val	Ser	Arg	Ser	Ser	Arg
				645					650					655	
Thr	Lys	Thr	Leu	Glu	Ser	Ser	Asn	Cys	Pro	Val	Tyr	His	Tyr	Asp	Tyr
			660					665					670		
Ser	Arg	Val	Leu	Asn	Ala	Cys	Cys	Glu	Asn	Val	Ile	Gly	Tyr	Met	Pro
		675					680					685			
Leu	Pro	Leu	Gly	Val	Ala	Gly	Pro	Leu	Ile	Ile	Asp	Gly	Lys	Pro	Phe
	690					695					700				
Tyr	Ile	Pro	Met	Ala	Thr	Thr	Glu	Gly	Ala	Leu	Val	Ala	Ser	Thr	Met
705						710					715				720
Arg	Gly	Cys	Lys	Ala	Ile	Asn	Ala	Gly	Gly	Gly	Ala	Val	Thr	Val	Leu
				725					730					735	
Thr	Arg	Asp	Gln	Met	Ser	Arg	Gly	Pro	Cys	Val	Ala	Phe	Pro	Asn	Leu
			740					745					750		

Thr Arg Ala Gly Arg Ala Lys Ile Trp Leu Asp Ser Pro Glu Gly Gln
755 760 765

Glu Val Met Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala Arg Leu
770 775 780

Gln His Ile Lys Thr Ala Leu Ala Gly Thr Arg Leu Phe Ile Arg Phe
785 790 795 800

Cys Thr Ser Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys Gly
805 810 815

Val Glu His Ala Leu Val Val Met Ser Asn Asp Ala Gly Phe Asp Asp
820 825 830

Met Gln Val Ile Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro
835 840 845

Ala Ala Ile Asn Trp Ile Asp Gly Arg Gly Lys Ser Val Ile Ala Glu
850 855 860

Ala Ile Ile Pro Gly Asp Ala Val Lys Ser Val Leu Lys Thr Thr Val
865 870 875 880

Glu Asp Leu Val Lys Leu Asn Val Asp Lys Asn Leu Ile Gly Ser Ala
885 890 895

Met Ala Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn Ile Val
900 905 910

Thr Ala Val Tyr Leu Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu
915 920 925

Ser Ser Asn Cys Ile Thr Leu Met Asp Asn Val Asp Gly Asn Leu Gln
930 935 940

Leu Ser Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly Gly Gly
945 950 955 960

Thr Val Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly Val Arg
965 970 975

Gly Ala His Met Thr Ser Pro Gly Asp Asn Ser Arg Gln Leu Ala Arg
980 985 990

Val Val Ala Ala Ala Val Met Ala Gly Glu Leu Ser Leu Cys Ser Ala
 995 1000 1005

Leu Ala Ser Gly His Leu Val Lys Ser His Ile Gly Leu Asn Arg
 1010 1015 1020

Ser Ala Leu Asn Thr Pro Ala Met Asp Ser Ser Ala Lys Lys Pro
 1025 1030 1035

Ala Thr Asp Ala Leu Lys Ser Val Asn Ser Arg Val Pro Gly Arg
 1040 1045 1050

<210> 288

<211> 888

<212> PRT

<213> Oryctolagus cuniculus

<400> 288

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
 1 5 10 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
 20 25 30

Ser Met Asn Met Phe Thr Gly Asn Asp Lys Ile Cys Gly Trp Asn Tyr
 35 40 45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
 50 55 60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
 65 70 75 80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
 85 90 95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
 100 105 110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
 115 120 125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Ala Leu Ala Lys Phe Ala
 130 135 140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly

145		150		155		160									
Met	Ala	Ile	Leu	Gly	Pro	Thr	Phe	Thr	Leu	Asp	Ala	Leu	Val	Glu	Cys
				165					170					175	
Leu	Val	Ile	Gly	Val	Gly	Thr	Met	Ser	Gly	Val	Arg	Gln	Leu	Glu	Ile
			180					185					190		
Met	Cys	Cys	Phe	Gly	Cys	Met	Ser	Val	Leu	Ala	Asn	Tyr	Phe	Val	Phe
		195					200					205			
Met	Thr	Phe	Phe	Pro	Ala	Cys	Val	Ser	Leu	Val	Leu	Glu	Leu	Ser	Arg
	210					215					220				
Glu	Ser	Arg	Glu	Gly	Arg	Pro	Ile	Trp	Gln	Leu	Ser	His	Phe	Ala	Arg
225					230					235					240
Val	Leu	Glu	Glu	Glu	Glu	Asn	Lys	Pro	Asn	Pro	Val	Thr	Gln	Arg	Val
				245					250					255	
Lys	Met	Ile	Met	Ser	Leu	Gly	Leu	Val	Leu	Val	His	Ala	His	Ser	Arg
			260					265					270		
Trp	Ile	Ala	Asp	Pro	Ser	Pro	Gln	Asn	Ser	Thr	Ala	Asp	Asn	Ser	Lys
		275					280					285			
Val	Ser	Leu	Gly	Leu	Asp	Glu	Asn	Val	Ser	Lys	Arg	Ile	Glu	Pro	Ser
	290					295					300				
Val	Ser	Leu	Trp	Gln	Phe	Tyr	Leu	Ser	Lys	Met	Ile	Ser	Met	Asp	Ile
305					310					315					320
Glu	Gln	Val	Ile	Thr	Leu	Ser	Leu	Ala	Leu	Leu	Leu	Ala	Val	Lys	Tyr
				325					330					335	
Ile	Phe	Phe	Glu	Gln	Ala	Glu	Thr	Glu	Ser	Thr	Leu	Ser	Leu	Lys	Asn
			340					345					350		
Pro	Ile	Thr	Ser	Pro	Val	Val	Thr	Gln	Lys	Lys	Val	Pro	Asp	Ser	Cys
		355					360					365			
Cys	Arg	Arg	Glu	Pro	Val	Val	Val	Arg	Asn	Asn	Gln	Lys	Phe	Cys	Ser
	370					375					380				
Val	Glu	Glu	Glu	Ala	Gly	Met	Ser	Gln	Asp	Arg	Lys	Val	Glu	Val	Ile
385					390				395						400